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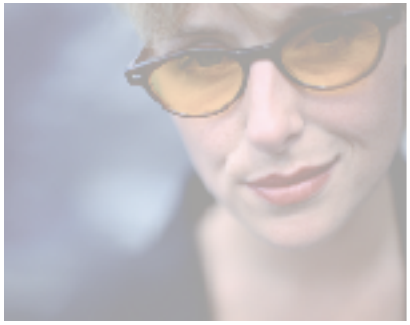
Gateway 955 Server

user's guide



Gateway™

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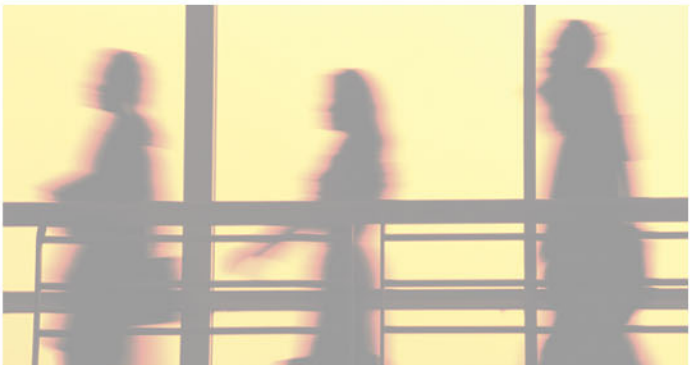
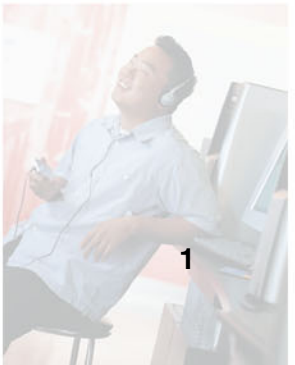
Checking Out Your Gateway Server

1

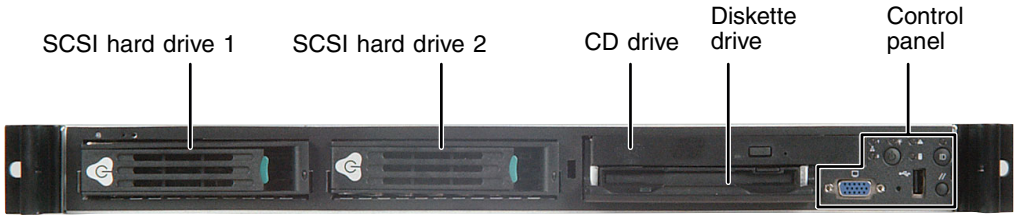
Read this chapter to learn:

- Where drives, ports, jacks, and controls are located
- Where system board components are located
- What help resources are available

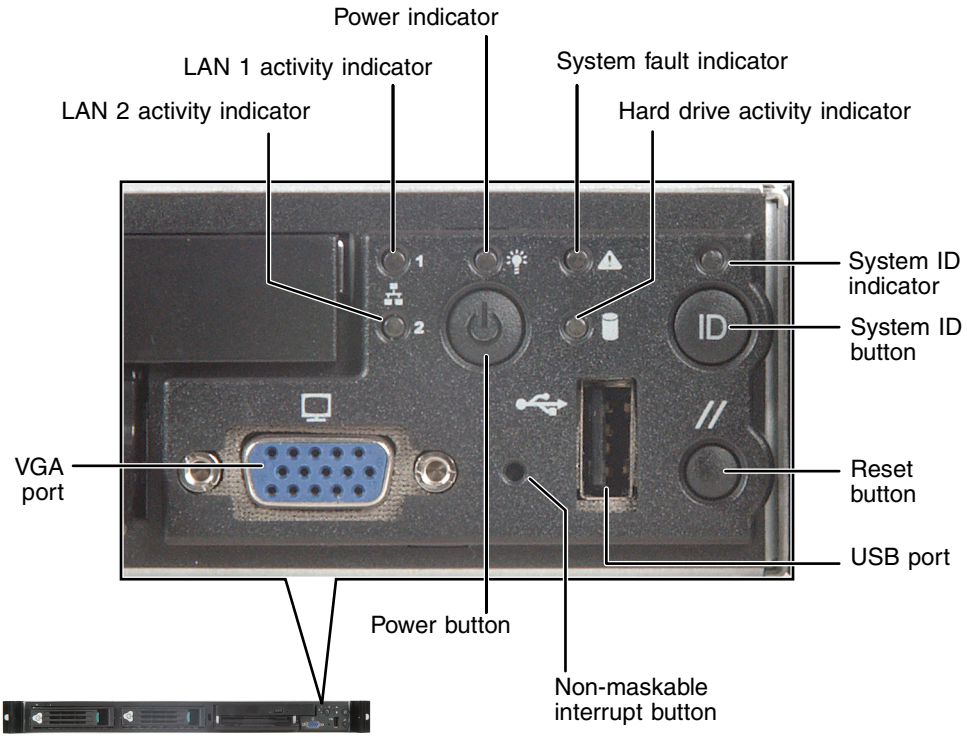




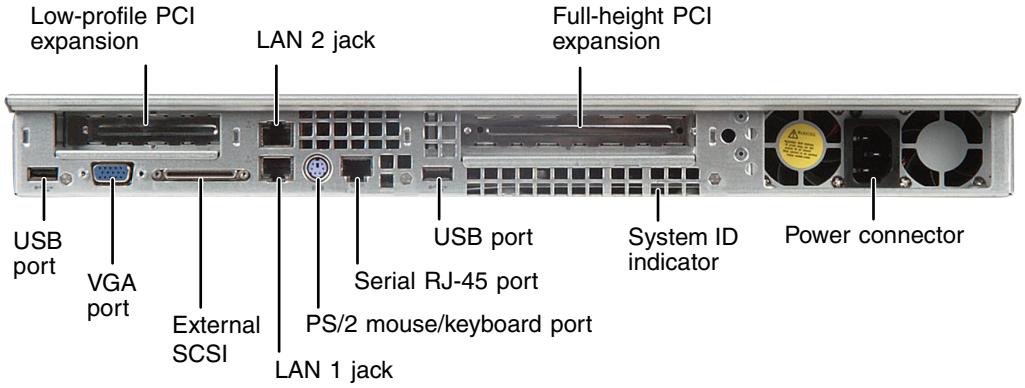
Front



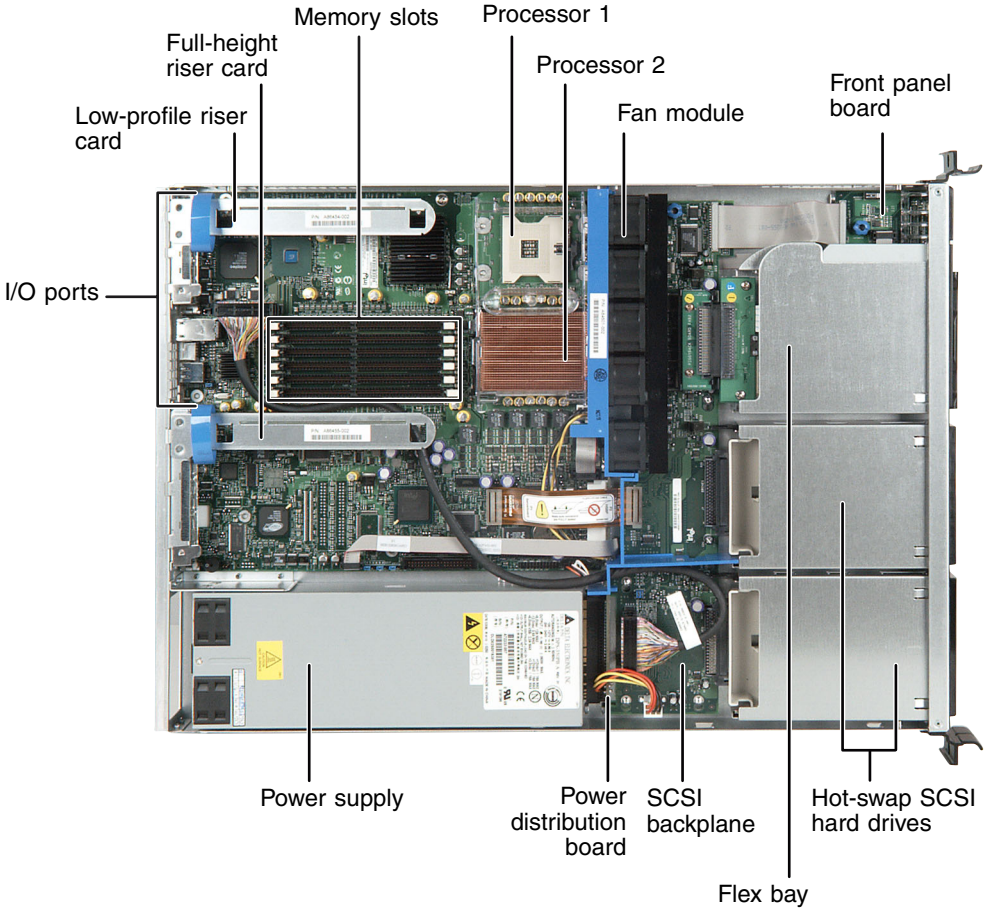
Control panel



Back

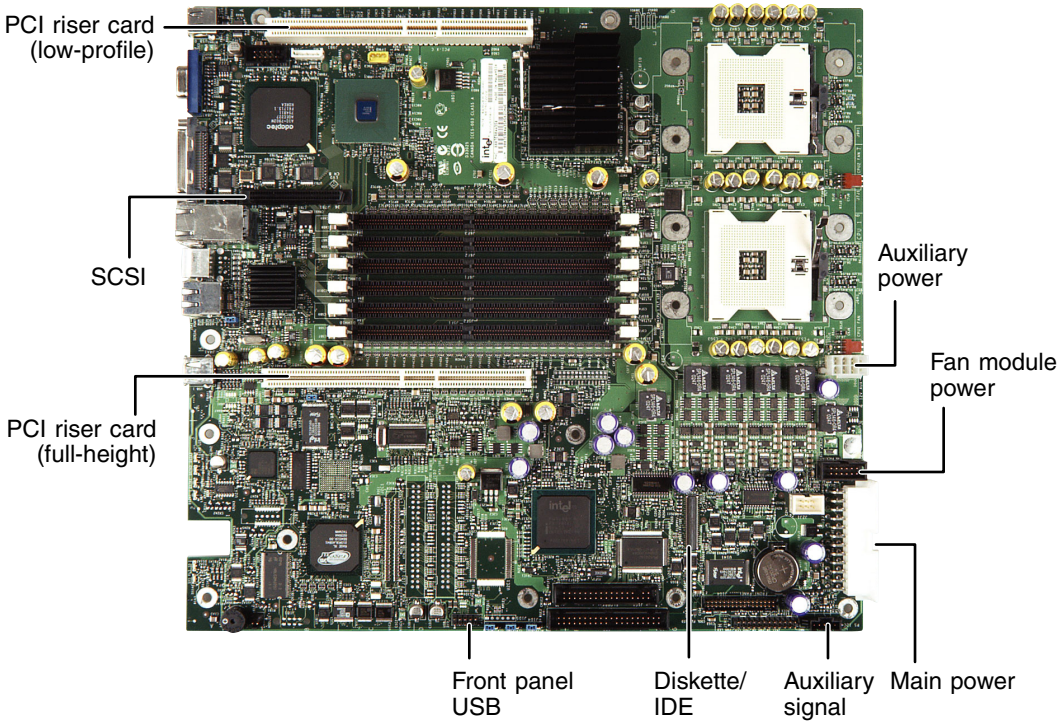

Low-profile PCI expansion
LAN 2 jack
Full-height PCI expansion
USB port
VGA port
External SCSI
LAN 1 jack
PS/2 mouse/keyboard port
Serial RJ-45 port
USB port
System ID indicator
Power connector

Interior


Memory slots
Processor 1
Full-height riser card
Processor 2
Front panel board
Low-profile riser card
Fan module
I/O ports
Power supply
Power distribution board
SCSI backplane
Hot-swap SCSI hard drives
Flex bay

System board

Connectors



Getting Help

In addition to your operating system's documentation, you can use the following information resources to help you use your server.

Server Companion CD

Use the *Server Companion CD* to access file utilities, Windows 2000 Server drivers, and documentation for your server and its components. For more information, see *Using Your Server Companion CD*.

Gateway Web site

Gateway provides a variety of information on its Web site to help you use your server.

Visit the Gateway Web site at support.gateway.com for:

- Technical documentation and product guides
- Technical tips and support
- Updated hardware drivers
- Order status
- Frequently asked questions (FAQs)

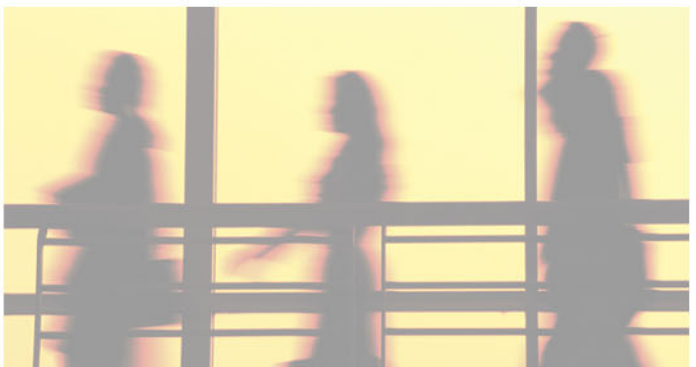
Telephone support

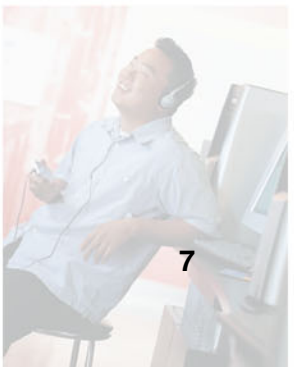
You can access a wide range of services through your telephone, including customer service, technical support, and information services. For more information, see "Telephone support" on page 96.

2 Setting Up Your Server

Read this chapter to learn how to:

- Use your server safely
- Install your server into a cabinet
- Start and turn off your server
- Set up your operating system





Setting up the hardware

To make sure that your working environment is safe:

- Use a clean, dry, flat, stable surface for your server. Allow at least 6 inches at the rear of the server for cabling and air circulation.
- Use the instructions on your server's setup poster to set up your hardware.
- Use a grounded (three-prong) surge protector. A surge protector helps protect against AC power fluctuations. For additional protection from power outages, we recommend that you use an uninterruptible power supply (UPS).

Warning

Your server comes with a 3-wire AC power cord fitted with the correct plug style for your region. If this plug does not match the connector on your surge protector, UPS, or wall outlet, do not attempt to modify the plug in any way. Use a surge protector, UPS, or wall outlet that is appropriate for the supplied AC power cord.

- Avoid subjecting your server to extreme temperature changes. Do not expose your server to direct sunlight, heating ducts, or other heat-generating objects. Damage caused by extreme temperatures is not covered by your warranty. As a general rule, your server is safest at temperatures that are comfortable for you.
- Keep your server and magnetic media away from equipment that generates magnetic fields, such as unshielded stereo speakers. Strong magnetic fields can erase data on both diskettes and hard drives. Even a telephone placed too close to the server may cause interference.

Important

Keep the server boxes and packing material in case you need to ship the server.

Protecting from power source problems

Surge protectors, line conditioners, and uninterruptible power supplies can help protect your server against power source problems.

Surge protectors

During a power surge, the voltage level of electricity coming into your server can increase to far above normal levels and cause data loss or server damage. Protect your server and peripheral devices by connecting them to a surge protector, which absorbs voltage surges and prevents them from reaching your server.

Warning

High voltages can enter your server through the power cord, and the modem and network connections. Protect your server by using a surge protector. If you have a modem, use a surge protector that has the appropriate type of modem jack. During an electrical storm, unplug the surge protector and the modem and network cables.

When you purchase a surge protector:

- Make sure that the surge protector meets the appropriate product safety certification for your location, such as Underwriters Laboratories (UL).
- Check the maximum amount of voltage the protector allows to pass through the line. The lower the voltage that the protector allows to pass through, the better the protection for your server.
- Check the energy absorption (*dissipation)* rating. The higher the energy absorption rating, the better the protection for your server.
- Check for line-conditioner capabilities. A line conditioner smooths out some of the normal line noise (small voltage fluctuations) of an electrical supply.

Line conditioners

A line conditioner protects your server from the small fluctuations in voltage from an electrical supply. Most servers can handle this variation, called *line noise,* without problems. However, some electrical sources include more line noise than normal. Line noise can also be a problem if your server is located near, or shares a circuit with, a device that causes electromagnetic interference, such as a television or a motor.

Some surge protectors and uninterruptible power supplies include simple line-conditioning capabilities.

Uninterruptible power supplies

Use an uninterruptible power supply (UPS) to protect your server from data loss during a total power failure. A UPS uses a battery to keep your server running temporarily during a power failure and lets you save your work and shut down your server. You cannot run your server for an extended period of time while using only the UPS. To buy a UPS, visit accessories.gateway.com.

Mounting your server into a cabinet

The cabinet mounting hardware included with your server should be used with standard 4-post cabinets that have front and back vertical posts. The L-shaped cabinet mounting brackets can be used for mid-mounting on a 2-post cabinet, but that procedure is not covered here. If your cabinet is a different type, obtain mounting hardware from the cabinet manufacturer.

Warning

Before attaching cabinet accessories, make sure that the server is turned off and all power cords are unplugged.

Warning

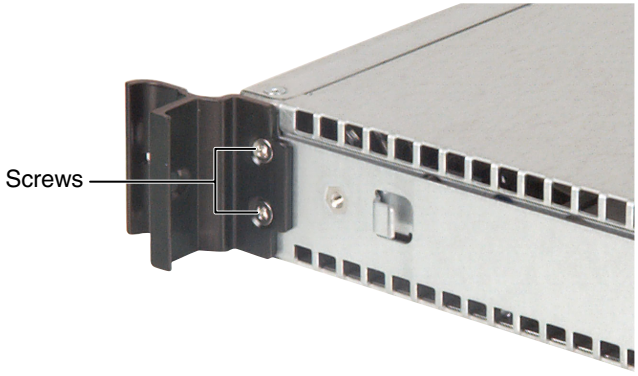
The cabinet must provide sufficient airflow to the front of the server to maintain proper cooling. It must also include ventilation sufficient to exhaust a maximum of 1200 BTUs per hour for this server.

Rackmount kit contents:

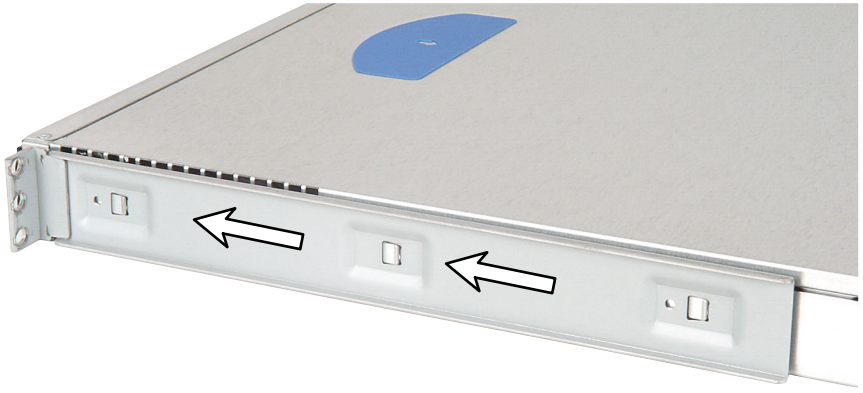
- Server rails (2)
- Cabinet rails (2)
- L brackets (2, not used for this type of installation)
- Fastener pack (1)
  - Small screws (4, #6-32 × 3/16-inch)
  - Medium screws (8, #10-32 × ½-inch)
  - Large screws (2, #10-32 × 7/8-inch)
  - Handle spacers (2)
  - Nut bars (4)
  - Disk guides (2)

To mount your server in a cabinet:

1 Remove the two screws from each handle, then set the handles and screws aside.

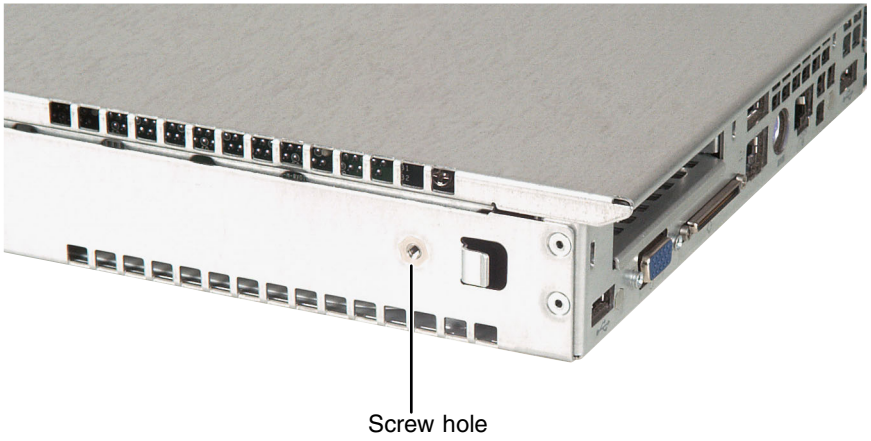


2 Align the holes in a server rail with the tabs on the side of the server, then place the rail against the server and slide the rail as far forward as it will go. Both server rails are identical, so you can use either rail on either side of the server.

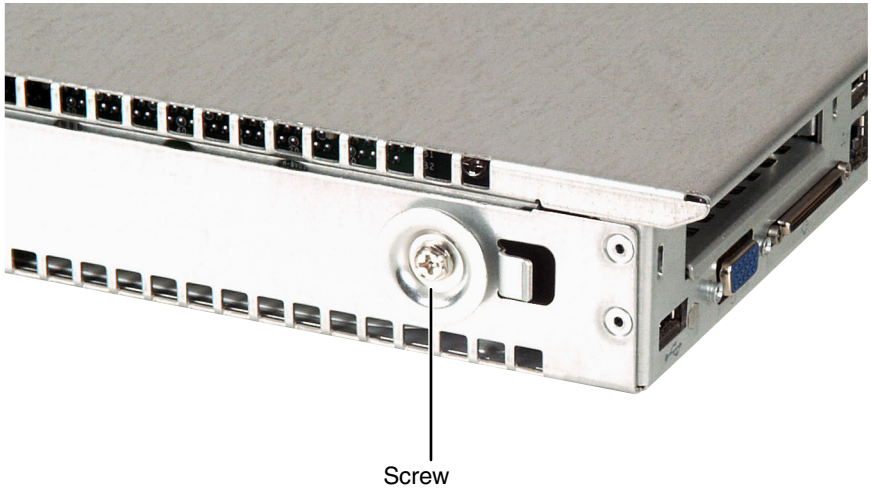


3 Use one of the small screws to fasten the rail to the server, then attach the remaining rail to the other side of the server.

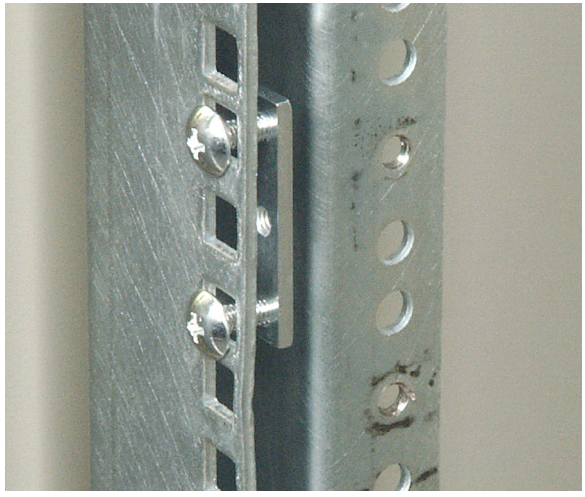
4 Place a disk guide over the disk guide screw hole towards the back of the server.



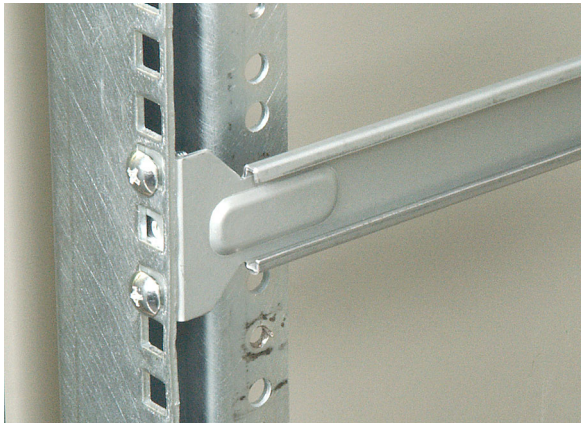
5 Insert a small screw through the disk guide and tighten the screw. Attach the remaining disk guide to the other side of the server.



6 Attach a nut bar to the inside of the two rear cabinet posts using medium screws, but do not completely tighten the screws (leave them loose enough to allow insertion of the cabinet rail in the next step).



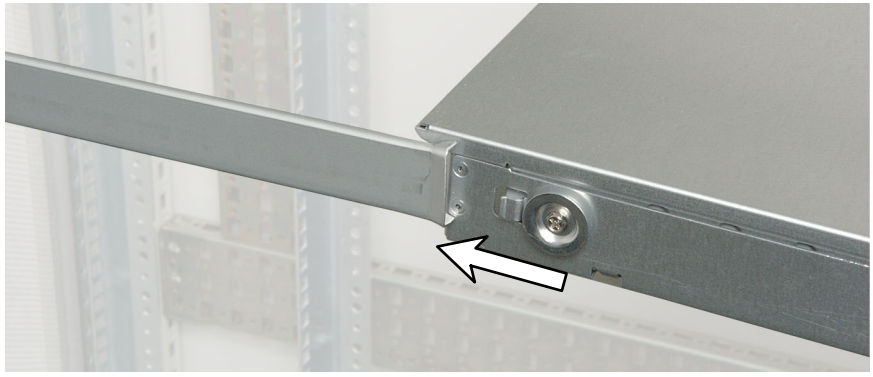
7 Insert the slotted foot of a cabinet rail between each nut bar and post, then tighten the screws.



Warning

Lifting the server and attaching it to the rack is a two-person job. If needed, use an appropriate lifting device. A fully loaded Gateway 955 server weighs about 30 lbs. (13.6 kg).

8 With the front of the server facing you, lift the server, insert it into the cabinet from the front, then position the disk guides so they fit in the cabinet rails.



9 Push the server toward the back of the cabinet until the front of the server rails touch the front cabinet posts.

10 Attach one of the server rails to the front cabinet post using two of the medium screws and one nut bar, then attach the remaining rail to the other cabinet post.

Warning

Screws are required to support the front of the server. You must support the server while installing or removing the front screws and while sliding the server on or off the cabinet rails.

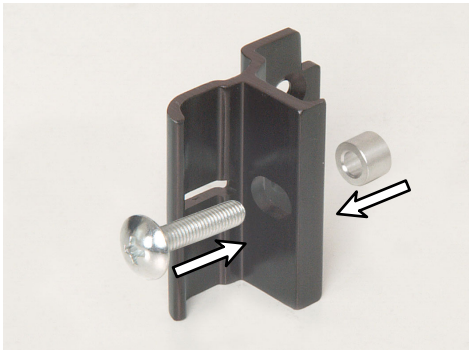
Installing the front cover

Important

The front cover is held in place by the server handles. If you are not installing the front cover, you do not need to install the handles.

To install the front cover (optional):

1 Insert one of the large screws into the front screw hole on the handle, then insert a spacer onto the part of the screw protruding from the back of the handle.



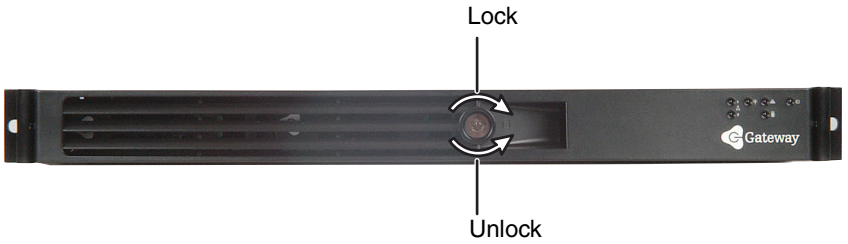
2 Slide a handle (with its attached screw and spacer) between the server and the server rail.

3 Align the screw on the handle with the center hole in the server rail, then tighten the screw.

4 Attach the remaining handle to the other side of the server.

5 Remove the front cover lock keys from the inside of the front cover, then snap on the front cover.

6 To lock the front cover, insert the key into the lock and rotate it ¼ turn clockwise. To unlock it, rotate the key ¼ turn counter-clockwise.



Removing the server from a cabinet

To remove the server from a cabinet:

Warning

Screws are required to support the front of the server. You must support the server while removing the front screws and while sliding the server off the cabinet rails.

1 Remove the front cover, if installed.

2 Remove the handles, if installed.

3 While supporting the front of the server, remove the four screws that secure the server rails to the front cabinet posts.

4 While supporting the server, slide the server away from the cabinet until it slides off the cabinet rails.

Starting your server

Before you start your server for the first time:

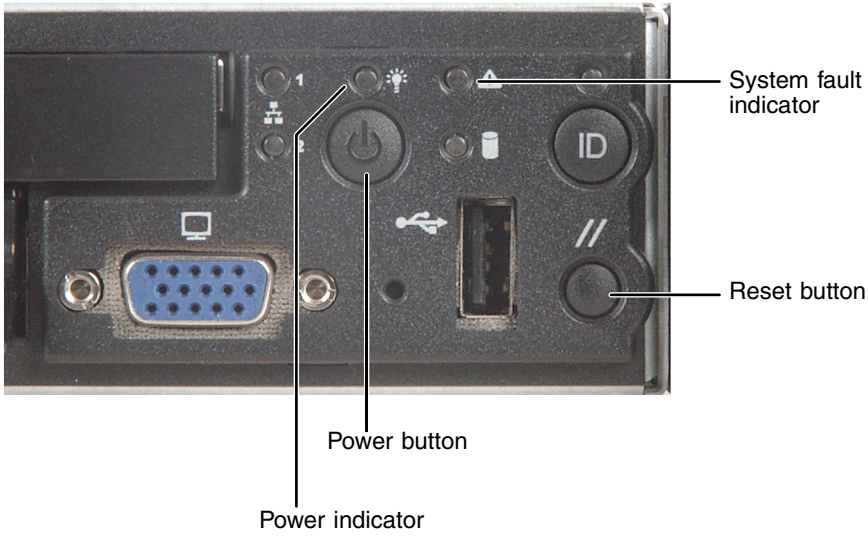
- Make sure that the server and monitor are plugged into a power outlet or surge protector and that the surge protector (if you are using one) is turned on.
- Make sure that all cables are connected securely to the correct ports and jacks on the back of the server.

Warning

When you connect peripheral devices to the server, make sure that your server and devices are turned off and the power cords are unplugged.

To start the server:

1. Turn on any peripheral devices connected to the server.
2. Press the power button.



When the power indicator is...	It means...
Green (steady on)	The server is turned on.
Green (blinking)	The server is in sleep mode.
Off	The server is turned off.

When the system fault indicator is...	It means...
Green (steady on)	The server is operating normally.
Green (blinking)	The server is operating in a degraded condition.
Orange (steady on)	The server is in a critical or unrecoverable condition.
Orange (blinking)	The server is in a noncritical condition.
Off	POST failure or full system stop.

If nothing happens when you press the power button:

- Make sure that the power cable is plugged in securely and that your surge protector (if you are using one) is plugged in and turned on.
- Make sure that the monitor is connected to the server, plugged into the power outlet or surge protector, and turned on. You may also need to adjust the monitor's brightness and contrast controls.
- If you cannot find the cause of the power loss, contact Gateway Technical Support. For more information, see "Getting Help" on page 6.

3 The first time you turn on the server, any pre-installed operating system may begin asking you for configuration settings. See your operating system's documentation for instructions on configuring advanced settings for your specific network.

Understanding the power-on self-test

When you turn on your server, the power-on self-test (POST) routine checks the server memory and components. If POST finds any problems, the server displays error messages. Write down any error messages that you see, then see "Error messages" on page 100 and "Beep codes" on page 103 for troubleshooting information.

Turning off your server

Every time you turn off your server, first shut down the operating system. You may lose data if you do not follow the correct procedure.

To turn off the server:

1. See the operating system's documentation or online help for instructions on shutting down the operating system. Whenever possible, you should use the operating system's shut down procedure instead of pressing the power button.

Warning

The power button on the server does not turn off server AC power. To remove AC power from the server, you must unplug the AC power cord from the wall outlet or power source. The power cord is considered the disconnect device to the main (AC) power.

2. If your server did not turn off automatically, press the power button.

   - OR -

   Press the reset button to reset the server.

Setting up the operating system

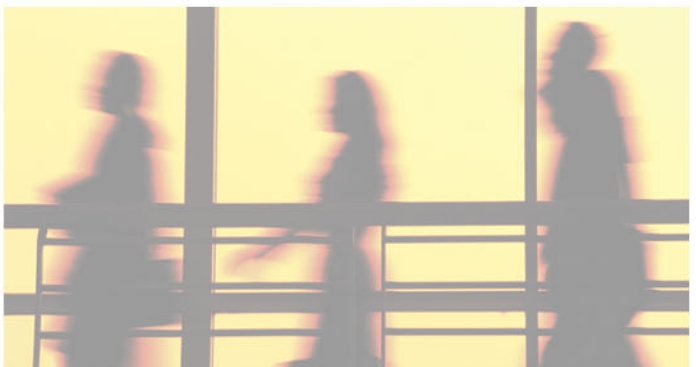
If you ordered your server with the operating system already installed by Gateway, it is completely installed and the basic settings are already configured. See your operating system's documentation for instructions on configuring advanced settings for your specific network.

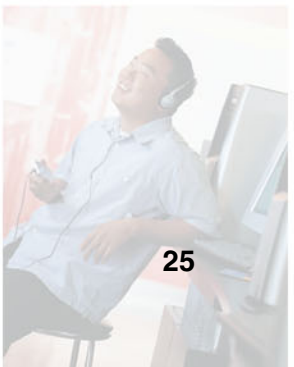
If you are installing an operating system because it was not already installed by Gateway, see the appropriate installation guide for instructions.

3 Maintaining Your Server

Read this chapter to learn how to:

- Care for your server
- Record the BIOS configuration
- Manage your server and network





Caring for your server

To extend the life of your server:

- Be careful not to bump or drop your server.
- When transporting your server, we recommend that you put it in the original packaging materials.
- Keep your server and magnetic media away from equipment that generates magnetic fields, such as unshielded speakers.
- Avoid subjecting your server to extreme temperatures. Do not expose your server to heating ducts or other heat-generating objects. Damage caused by extreme temperatures is not covered by your warranty. As a general rule, your server is safest at temperatures that are comfortable for you.
- Keep all liquids away from your server. When spilled onto server components, almost any liquid can result in extremely expensive repairs that are not covered under your warranty.
- Avoid dusty or dirty work environments. Dust and dirt can clog the internal mechanisms and can cause the server to overheat.

Cleaning your server

Keeping your server clean and the vents free from dust helps keep your server performing at its best. Your server cleaning kit could include:

- A soft, lint-free cloth
- Glass cleaner
- An aerosol can of air with a narrow, straw-like extension
- Isopropyl alcohol
- Cotton swabs
- A CD drive cleaning kit

Cleaning tips

- Always turn off your server and other peripheral devices before cleaning any components.

Warning

When you shut down your server, the power turns off, but some electrical current still flows through your server. To avoid possible injury from electrical shock, unplug the power cord and all other cables connected to the server.

- Use a damp, lint-free cloth to clean your server and other parts of your server system. Do not use abrasive or solvent cleaners because they can damage the finish on components.
- Keep the cooling vents free of dust. With your server turned off and unplugged, brush the dust away from the vents with a damp cloth, but be careful not to drip any water into the vents.

Cleaning the keyboard

You should clean the keyboard occasionally by using an aerosol can of air with a narrow, straw-like extension to remove dust and lint trapped under the keys.

If you spill liquid on the keyboard, turn off your server and turn the keyboard upside down to let the liquid drain. Let the keyboard dry completely before trying to use it again. If the keyboard does not work after it dries, you may need to replace it. Keyboard damage resulting from spilled liquids is not covered by your warranty.

Cleaning the screen

If your computer screen is a flat panel display, use only a damp, soft cloth to clean it. Never spray water directly onto the screen.

Warning

The computer screen is made of specially coated glass and can be scratched or damaged by abrasive or ammonia-based glass cleaners.

- OR -

If your computer screen is not a flat panel display, use a soft cloth dampened with glass cleaner to clean the screen. Never spray cleaner directly onto the screen.

Preparing for system recovery

If your system files are corrupted, you may not be able to start the server from the hard drive. *Startup diskettes* are diskettes that let you start the server and attempt to fix the problem. See your operating system's documentation or online help for instructions on creating startup diskettes.

Some operating systems also let you create an emergency repair diskette to back up critical operating system files. See your operating system's documentation or online help for instructions on creating and using an emergency repair diskette.

Recording the BIOS configuration

To help keep track of your custom changes to BIOS settings and to prepare for system recovery, you should record your BIOS configuration after you have your server set up and working.

To record your BIOS configuration:

1. Print the appendix for "BIOS Settings" on page 119.
2. Restart your server, then press **F2** when the Gateway logo screen appears during startup. The BIOS Setup utility opens.
3. Record the BIOS settings on your printout.

System administration

Gateway Server Manager

Gateway Server Manager lets you manage multiple computers on a Windows™ network from a single window, then implement commands and policies across the network with a single action. With Gateway Server Manager, you can run system management tasks which are triggered by certain events or conditions.

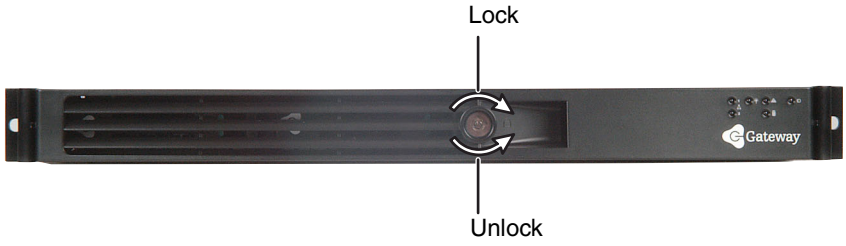
Printed documentation comes with the *Gateway Server Manager* CD. You can find additional documentation in the program's online help.

Server security

Locking the server

To lock the server:

1. Remove the front cover lock keys from the inside of the front cover, then snap on the front cover. The handles must be installed for the cover to snap on. For instructions, see "Installing the front cover" on page 17.
2. Insert the key into the lock and rotate it ¼ turn clockwise. To unlock it, rotate the key ¼ turn counter-clockwise.



Using BIOS security passwords

To prevent unauthorized use of the server, you can set server startup passwords. Set up an administrator password to prevent unauthorized access to the BIOS Setup utility.

For information about resetting BIOS passwords, see "Resetting BIOS passwords" on page 93.

To set the BIOS security passwords:

1. Restart your server, then press **F2** when the Gateway logo screen appears during startup. The BIOS Setup utility opens.
2. Select the **Security** menu.
3. Select **Administrator Password**.
4. Type the password and press ENTER, then type it again and press ENTER.
5. Save your changes and close the BIOS Setup utility.

To remove a BIOS security password:

1. Restart your server, then press **F2** when the Gateway logo screen appears during startup. The BIOS Setup utility opens.
2. Select the **Security** menu, then select the password to remove.
3. Enter the current password, then press ENTER.
4. For the new password, leave the password field blank, then press ENTER. The password is removed.

Tips & Tricks

Passwords can also be cleared using jumpers on the system board. For instructions, see "Resetting BIOS passwords" on page 93.

Using your Server Companion CD

You can use your *Server Companion CD* to:

- Install hardware drivers
- Install programs
- View server documentation

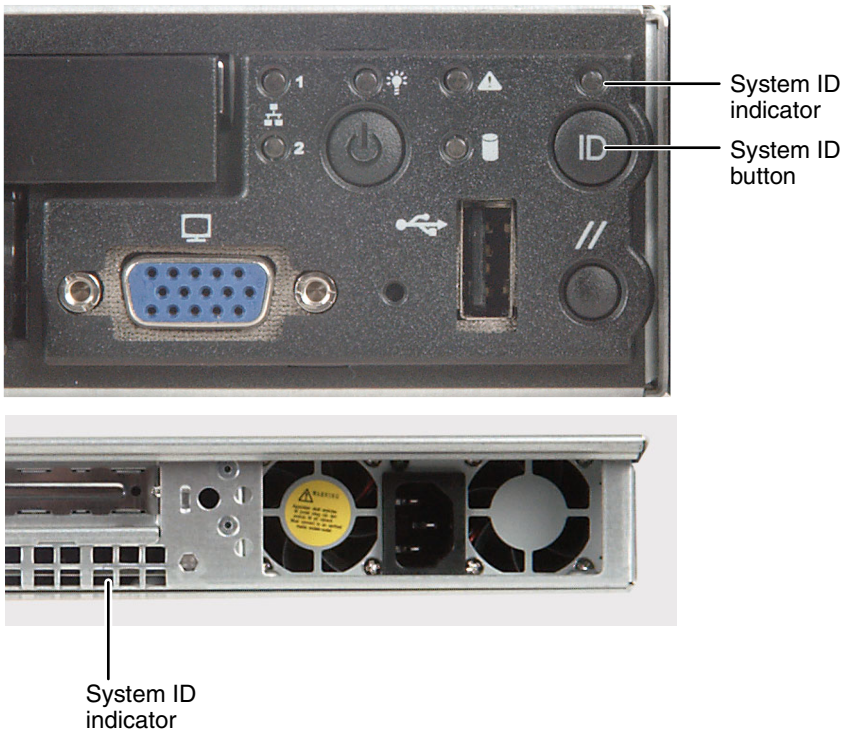
Instructions for using the CD are provided in *Using Your Server Companion CD*.

Identifying your server

While you are working on a cabinet that contains several slim servers, it can be difficult to keep track of which server or servers you are currently working on. The System ID indicator is a blue LED that you can turn on to help you locate the correct server. Your server has a System ID indicator in the front and in the back.

To turn on the System ID indicator:

1 Press the System ID button. The two blue System ID indicators turn on.



For the System ID indicator to turn on, the server does not need to be turned on, but it does need to be plugged in.

2 To turn off the indicator, press the System ID button.

Updating the baseboard management controller firmware

The baseboard management controller (BMC) performs several system management functions such as:

- Monitoring server components and sensors
- Managing nonvolatile storage for the system event log and sensor data records
- Interfacing with the emergency management port (RJ-45 serial on back panel) and LAN 1 port to send alerts and interact with remote management systems.
- Providing the main front panel controls (such as power and reset).

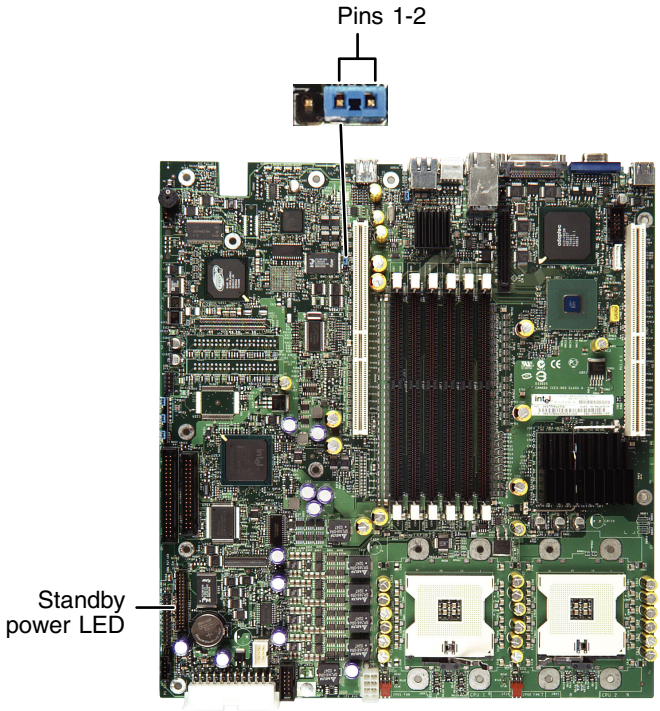
You should update the BMC firmware when Gateway Technical Support has instructed you to update it.

To update the BMC firmware:

1 Follow the instructions in "Preventing static electricity discharge" on page 45. Make sure that you disconnect the power cord, and wait until the Standby power LED turns off.

Caution

If you do not disconnect the power cord when instructed to in this procedure, the BMC firmware will not update.



2 Follow the instructions in "Opening the server case" on page 46.

3 Move the BMC Write Enable jumper to pins 1-2.

4 Follow the instructions in "Closing the server case" on page 48, then reconnect the power cord.

5 Create a DOS-bootable diskette.

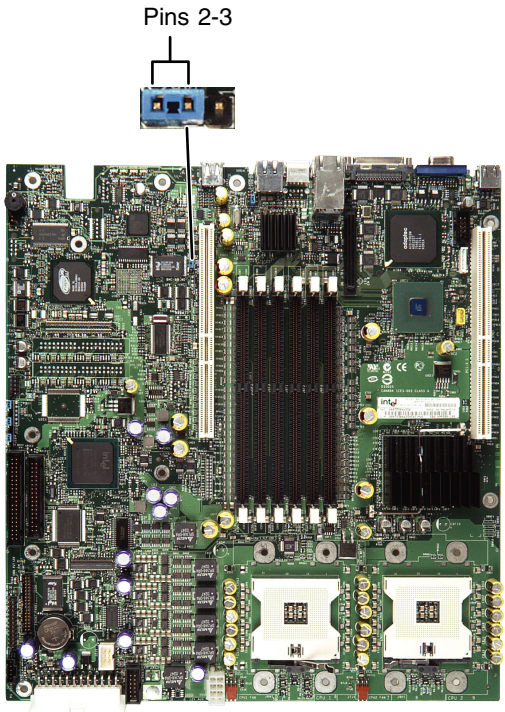
6 Download the BMC update file from support.gateway.com.

7 Follow the instructions included with the update file.

8 Turn off the server, then disconnect the power cord and wait for the Standby power LED to turn off.

9 Follow the instructions in "Opening the server case" on page 46.

10 Move the BMC Write Enable jumper back to pins 2-3.



11 Follow the instructions in "Closing the server case" on page 48, then reconnect the power cord.

Using the System Setup Utility

The System Setup Utility (SSU) lets you:

- View FRU information
- View sensor data records
- Set up the server to send alerts for platform events
- Set up the server for out-of-band (OOB) access through Gateway Server Manager

Important

The SSU does **not** work within a DOS window running under an operating system such as Windows.

Viewing FRU information

To view the Field Replaceable Unit (FRU) information:

1. Boot your server from the *Server Companion CD*, then select **System Setup Utility** from the menu. The System Setup Utility starts.
2. From the *SSU Main* window, click **FRU Manager**. The SSU automatically loads the current list of events from non-volatile memory.
3. Click the category for **Chassis**, **Board**, or **Product**. The category expands to show a list of components for that category.
4. Click a component. Information for that component is displayed.

Viewing sensor data records

To view the Sensor Data Records (SDR):

1. Boot your server from the *Server Companion CD*, then select **System Setup Utility** from the menu. The System Setup Utility starts.
2. In the *SSU Main* window, click **SDR Manager**.
3. Click a category in the left pane. The category expands to show a list of SDRs for that category.
4. Click an SDR. Information for that SDR is displayed.

Setting up remote access

You can set up the server so that you can perform system management tasks remotely.

Setting up remote LAN access

To set up remote LAN access:

1. Boot your server from the *Server Companion CD*, then select **System Setup Utility** from the menu. The System Setup Utility starts.
2. In the *SSU Main* window, click **Platform Event Manager (PEM)**.
3. In the *PEM* window, click **Configure LAN**.
4. To require a password for remote access, type the password in the **Enter New Password** box and in the **Verify New Password** box. Passwords can be from 1 to 16 characters long, using any ASCII character in the range 32-126.

   To clear the password, leave both boxes blank. You can also clear the password by clicking **Options**, then **Clear LAN Password**.

5 Click the remote access mode from the **LAN Access Mode** list:

- **Always Available**—A remote system can initiate a LAN connection regardless of the state of the server.
- **Restricted**—A remote system can initiate a LAN connection, but cannot perform control operations such as turn off power, reset, or front panel NMI (non-maskable interrupt).
- **Disabled**—Remote systems are not allowed to initiate LAN connections.

6 In the **IP Setup** box, click one:

- **DHCP**—The IP address for the server is automatically assigned by the DHCP (dynamic host control protocol) server on the network. The Host, Gateway, and Subnet Mask boxes in the dialog box are ignored.
- **Static**—Assign the IP address for the server using the Host, Gateway, and Subnet Mask boxes in the dialog box.

7 If you selected **Static** in the previous step, complete the IP addressing boxes:

- **Host IP Address**—The IP address of this server.
- **Gateway IP Address**—The IP address of the router for this server.
- **Subnet Mask**—The IP address for the server's subnet. The server uses this to decide if the alert destination is on the same subnet.

8 Click **Save** to save the changes.

9 Click **Close** to return to the *PEM* window.

Setting up remote modem or serial access

To set up remote modem or serial access:

1 Boot your server from the *Server Companion CD*, then select **System Setup Utility** from the menu. The System Setup Utility starts.

2 In the *SSU Main* window, click **Platform Event Manager (PEM)**.

3 In the *PEM* window, click **Configure EMP**.

4 To require a password for remote access, type the password in the **Enter New Password** box and in the **Verify New Password** box. Passwords can be from 1 to 16 characters long, using any ASCII character in the range 32-126.

   To clear the password, leave both boxes blank. You can also clear the password by clicking **Options**, then **Clear LAN Password**.

5 In the **Modem Ring Time** box, type the number of 500 ms intervals that the BMC should wait before answering an incoming call. A value greater than zero gives the BIOS time to answer before the BMC takes control. A value of zero causes the BMC to answer immediately. The maximum value, 63, tells the BMC to ignore the call. Modem Ring Time applies only to Preboot access mode and is ignored for other access modes.

6 In the **System Phone Number** box, type the number for the phone line connected to the modem on the EMP.

7 In the **Access Mode** list, click the remote access mode:

- **Always Active**—The EMP is available at any time.
- **Preboot**—The EMP is available only when the server is powered down or is running POST during startup. After the operating system is loaded, a connection cannot be made.
- **Disabled**—Remote systems are not allowed to initiate connections.

8 In the **Restricted Mode** list, click either:

- **Enabled**—A remote system can initiate a connection, but cannot perform control operations such as power down, reset, or front panel NMI.
- **Disabled**—The remote system has full control of the server.

9 In the *Connection Mode* list, click either:

- **Direct Connect**—The Serial RJ-45 port on the server is connected by a serial cable to the remote system.
- **Modem Connect**—The Serial RJ-45 port on the server is connected to a modem.

10 Click **Save** to save the changes.

11 Click **Close** to return to the *PEM* window.

Setting up paging alerts

To set up paging alerts:

1. Boot your server from the *Server Companion CD*, then select **System Setup Utility** from the menu. The System Setup Utility starts.
2. Install an external modem on the serial RJ-45 port on the back of your server.
3. In the *SSU Main* window, click **Platform Event Manager (PEM)**.
4. In the *PEM* window, click **Configure EMP**.
5. In the corresponding boxes, enter the following command strings for the modem attached to the serial RJ-45 port:
   - **ESC Sequence**—The escape sequence. This string is sent to the modem before sending command strings. The maximum length for the string is five characters. Longer strings are truncated.
   - **Hangup String**—Hang up or drop the connection. The EMP automatically sends an ENTER character following this string. The maximum length for the string is eight characters.
   - **Modem Dial Command**—The command to dial a phone number. This string is sent to the modem before sending the paging string.
   - **Modem Init String**—Initialization string for the modem. Sent every time the EMP initializes. You will be notified if the string is truncated. Following a save, the actual string saved is displayed in the edit box.
6. Click **Save** to save the changes.
7. Click **Close** to return to the *PEM* window.
8. In the *PEM* window, click **Configure PEP**.
9. Click to select the **Enable PEP** check box.
10. In the **Blackout Period** box, type the minimum time, in minutes, between successive pages. The valid range is 0-255 where 0 disables the blackout period.

    Setting a blackout period can save you from being flooded with repeat pages. After you receive a PEP page, no additional pages are sent by PEP for the duration of the blackout period.

11 In the **Paging String** box, type the telephone number to dial for the page and the message you want sent with the page. The maximum length for the paging string is determined at runtime from firmware. You will be notified if the string is truncated. Following a save, the actual string saved is displayed in the edit box.

12 Click **Options**, then click **Configure Event Actions**.

13 In the *Platform Event Paging Actions* window, move the events that you want to generate an alert to the **Enabled** column and move all other events to the **Disabled** column using the following buttons:

- >> Moves all events from the Enabled list to the Disabled list.
- > Moves the selected event from the Enabled list to the Disabled list.
- < Moves the selected event from the Disabled list to the Enabled list.
- << Moves all events from the Disabled list to the Enabled list.

14 Click **Save** to save the changes.

15 Click **Close** to return to the *PEP Configuration* window.

16 To send a test page to verify that you have correctly configured PEP, click **Options**, then click **Send Alert**.

17 Click **Save** to save the configuration.

18 Click **Close** to return to the *Platform Event Manager* window.

Setting up LAN alerts

To set up LAN alerts:

1 Boot your server from the *Server Companion CD*, then select **System Setup Utility** from the menu. The System Setup Utility starts.

2 In the *SSU Main* window, click **Platform Event Manager (PEM)**.

3 In the *PEM* window, click **Configure LAN**.

4 Click to select the **Enable LAN Alerts** check box.

5. In the **SNMP Community String** box, you can type an optional string for the community field in the **Header** section of the SNMP trap sent for an alert. The string must be from 5 to 16 characters. The default string is public.

6. In the **IP Setup** box, click either:

   - **DHCP**—The IP address for the server is automatically assigned by the DHCP (dynamic host control protocol) server on the network. The Host, Gateway, and Subnet Mask boxes in the dialog box are ignored.
   - **Static**—Assign the IP address for the server using the Host, Gateway, and Subnet Mask boxes in the dialog box.

7. If you chose **Static** IP Setup in the previous step, complete the IP addressing boxes:

   - **Host IP Address**—The IP address of this server.
   - **Gateway IP Address**—The IP address of the router for this server.
   - **Subnet Mask**—The IP address for the server's subnet. The server uses this to decide if the alert destination is on the same subnet.

8. In the **Alert IP Address** box, complete the IP address of the system you want to receive alerts from this server. If you want the alert to be broadcast to an entire subnet, enter the IP address for the subnet.

9. Click **Options**, then click **Configure Event Actions**.

10. In the *BMC LAN Alerting Actions* window, move the events that you want to generate an alert to the **Enabled** column and move all other events to the **Disabled** column using the following buttons:

    - >> Moves all events from the Enabled list to the Disabled list.
    - > Moves the selected event from the Enabled list to the Disabled list.
    - < Moves the selected event from the Disabled list to Enabled the list.
    - << Moves all events from the Disabled list to the Enabled list.

11. Click **Save** to save the changes.

12. Click **Close** to return to the *BMC LAN Configuration* window.

13. Click **Save** to save the changes.

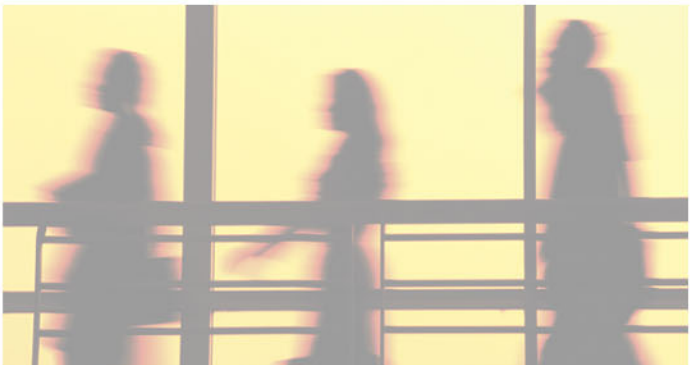
14. Click **Close** to return to the *PEM* window.

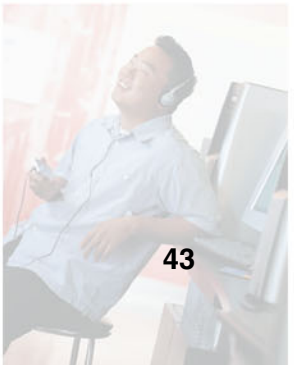
4 Installing Components

Read this chapter to learn how to:

- Open and close the server case
- Install drives
- Install expansion cards and memory modules
- Install processors
- Replace the power supply
- Replace the SCSI backplane
- Replace the fan module
- Replace the front panel board and power distribution board
- Replace the system board and CMOS battery

You must open your server case to install components. If you are not comfortable with these procedures, get help from a computer service technician or contact Gateway Technical Support.





Preparing to install components

Selecting a place to work

Work on your server in an area that:

- Is clean (avoid dusty areas)
- Is a low-static environment (avoid carpeted areas)
- Has a stable surface on which to set your server
- Has enough room to place all of your server parts
- Is near a grounded outlet so you can test your server after installation
- Is near a telephone (in case you need help from Gateway Technical Support). The telephone must be directly connected to a telephone jack and cannot be connected to your server.

Gathering the tools you need

Some tools and supplies that you may need to work on your server are:

- A notebook to take notes
- A Phillips screwdriver
- A small flat-blade screwdriver
- Small containers to store various types of screws
- A grounding wrist strap (available at most electronic stores)

Getting Help

If you have questions about performing any of these procedures, contact Gateway Technical Support. For more information, see "Getting Help" on page 6.

Preventing static electricity discharge

The components inside your server are extremely sensitive to static electricity, also known as *electrostatic discharge* (ESD).

Warning

ESD can permanently damage electrostatic discharge-sensitive components in the server. Prevent ESD damage by following ESD guidelines every time you open the server case.

Warning

To avoid exposure to dangerous electrical voltages and moving parts, turn off your server and unplug the power cord and modem cable before opening the server case.

Before working with server components, follow these guidelines:

- Turn off the server, then unplug the power cords and all other cables.
- Press the power button to drain any residual power from the server.
- Wear a grounding wrist strap (available at most electronics stores) and attach it to a bare metal part of the server. You can also touch a bare metal surface on the back of the server with your finger.

Warning

To prevent risk of electric shock, do not insert any object into the vent holes of the power supply.

- Avoid static-causing surfaces such as carpeted floors, plastic, and packing foam.
- Avoid working on the server when your work area is extremely humid.
- Remove components from their antistatic bags only when you are ready to use them. Do not lay components on the outside of antistatic bags because only the inside of the bags provide electrostatic protection.
- Always hold expansion cards by their edges or their metal mounting brackets. Avoid touching the edge connectors and components on the cards. Never slide expansion cards or components over any surface.

Opening the server case

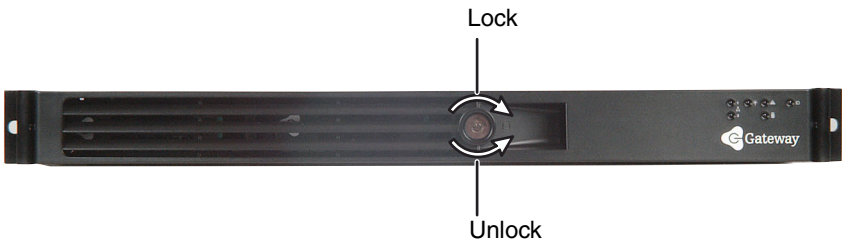
Because the components inside your server are extremely sensitive to static electricity, make sure that you follow the instructions at the beginning of this chapter to avoid static electricity damage.

Warning

For correct cooling and air flow, always reinstall the top panel before you turn on the server. Operating the server without the panel in place will cause the server to overheat.

To open the server:

1. Follow the instructions in "Preventing static electricity discharge" on page 45. Make sure you turn off the server, then unplug the power cord and all other cables connected to the server.
2. If the front cover is installed, unlock it, then pull it off.



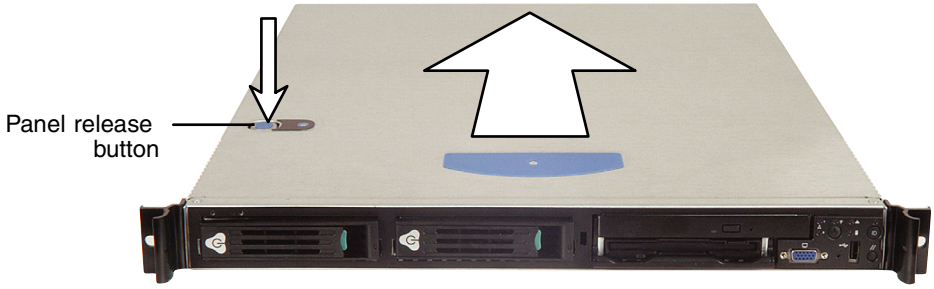
3. If the server is mounted in a cabinet, remove the server from the cabinet. For instructions, see "Removing the server from a cabinet" on page 19.

Warning

Screws are required to support the front of the server when using the standard cabinet rails. You must support the server while removing the front screws and while sliding the server off the cabinet rails.

4. Place the server on a stable, non-skid surface.

5 Press and hold the panel release button, then slide the top panel toward the back of the server about 1/2 inch.



6 Lift the top panel away from the server.

Closing the server case

To close the server case:

1. Make sure that all of the internal cables are arranged inside the case so they will not be pinched when you close the case.
2. Slide the top panel's edges into the server.
3. Slide the top panel toward the front of the server until it clicks into place.
4. Reconnect the power cord and all other cables.

Installing drives

Your server's basic configuration includes one combination CD/diskette drive and as many as three SCSI hard drives.

As you prepare to install drives, remember:

- Before you install a drive, see the drive's documentation for information on configuring the drive, setting drive jumpers, and attaching cables.
- You may need to configure the drives you install using the BIOS Setup utility. Press **F2** at startup to open the BIOS Setup utility.

Replacing the CD/diskette drive in the Flex Bay

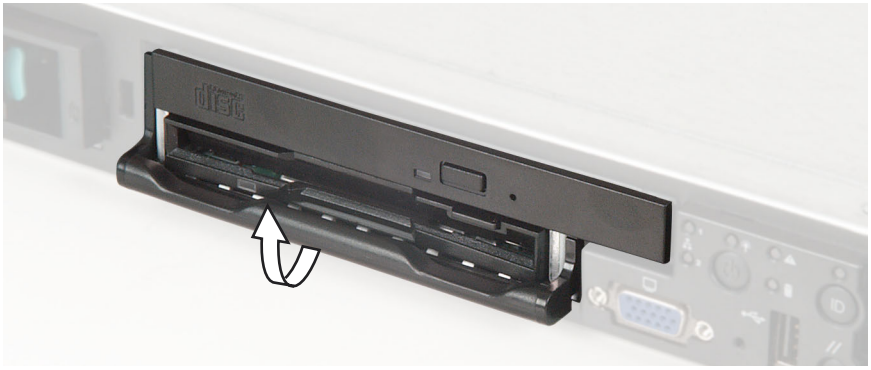
To replace the drive in the Flex Bay:

1. Follow the instructions in "Preventing static electricity discharge" on page 45.

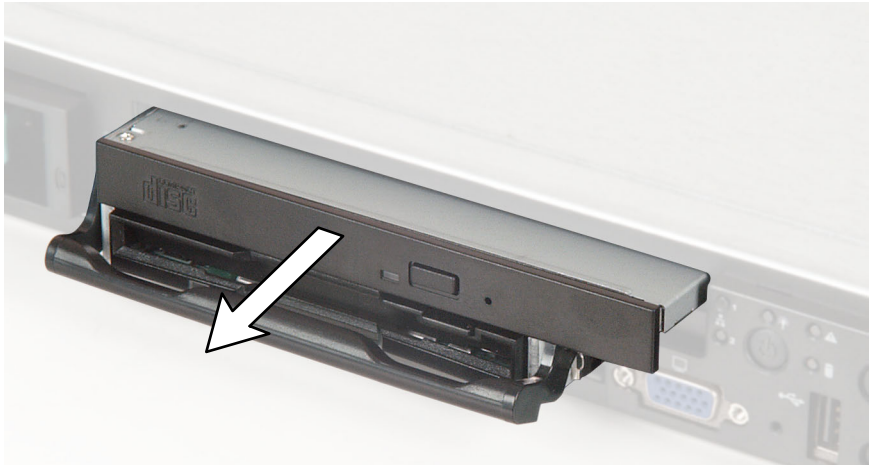
Caution

The combination CD/diskette drive is not hot-swappable. Before removing the drive, make sure that power is turned off.

2. Rotate the combination drive's locking handle up.



3 While holding the locking handle, pull the drive out of the server.



4 Insert the new drive into the Flex Bay, then press it in until the drive faceplate is flush with the front of the server.

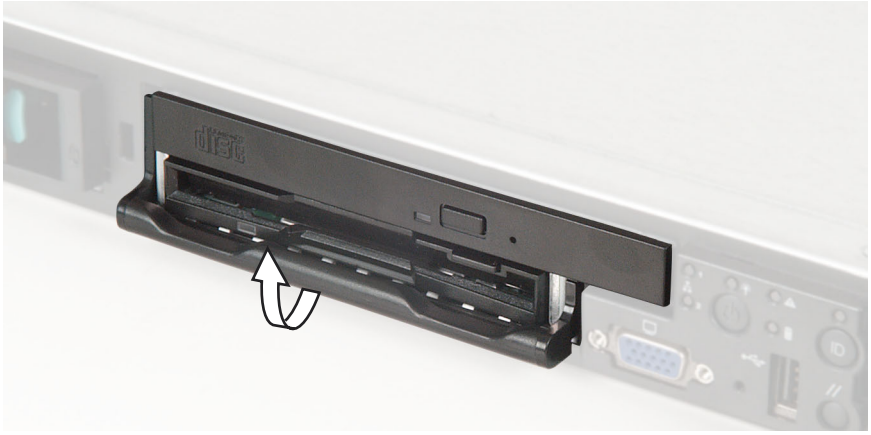
5 Rotate the locking handle down.

6 Reconnect all power cords and peripheral device cables, then turn on the server.

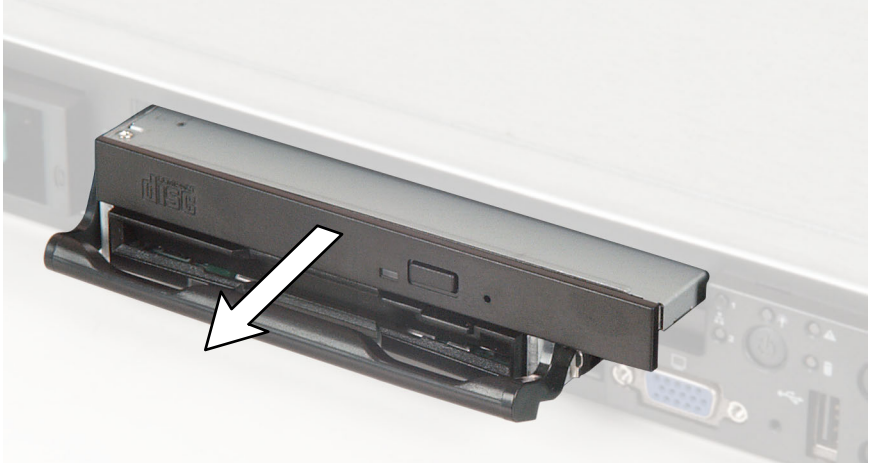
Installing a hot-swap SCSI hard drive into the Flex Bay

To install a hot-swap hard drive into the Flex Bay:

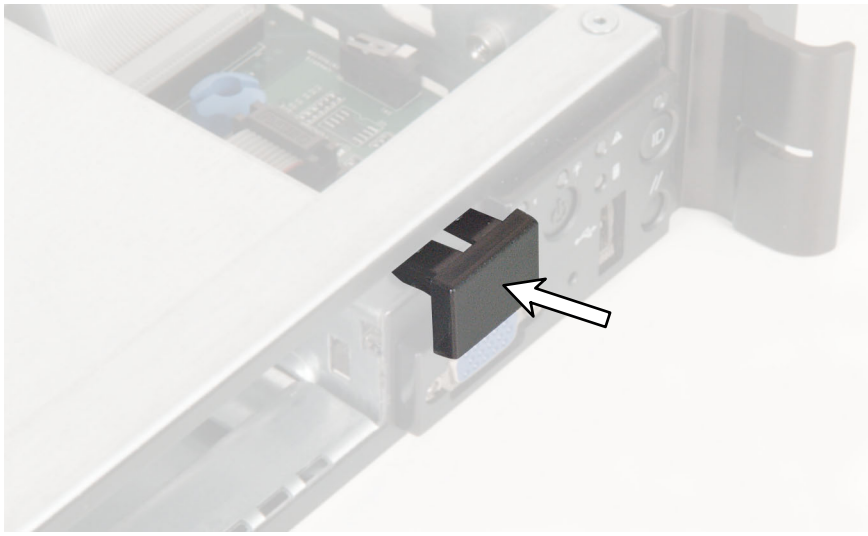
1. Follow the instructions in "Preventing static electricity discharge" on page 45.
2. Rotate the combination drive's locking handle up.



3. While holding the locking handle, pull the drive out of the server.

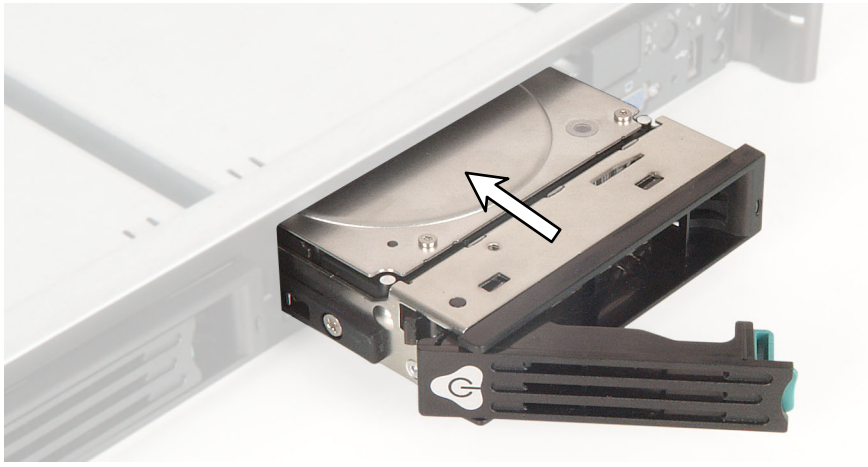


4 Insert the Flex Bay plug into the top left area of the front control panel. The Flex Bay plug comes in your server's accessory box.



5 Install the hard drive into the hot-swap drive tray. For instructions, see "Installing a hard drive" on page 54.

6 Make sure that the tray's release lever is fully open, then slide the tray and drive into the Flex Bay.



7 Press the lever closed to lock the drive into place.

8 Reconnect all power cords and peripheral device cables, then turn on the server. After the hard drive is installed and the server is turned on, the hard drive in the Flex Bay is hot-swappable.

Installing a hard drive

Use this procedure to add or replace hard drives in the hot-swap bay. Your server supports up to three 1-inch high 3.5-inch SCA SCSI hard drives. You can purchase additional SCSI drives through your Gateway sales or Technical Support representative.

Important

Gateway tests and verifies the operation and compatibility of the drives it sells. Especially in a hot-swap or mission-critical environment, additional or replacement drives must conform to Gateway standards.

To install a hard drive:

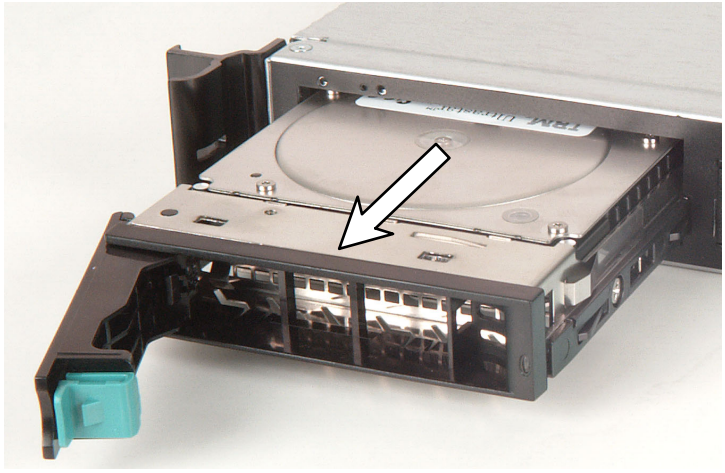
1 Remove the front cover (if installed).

Caution

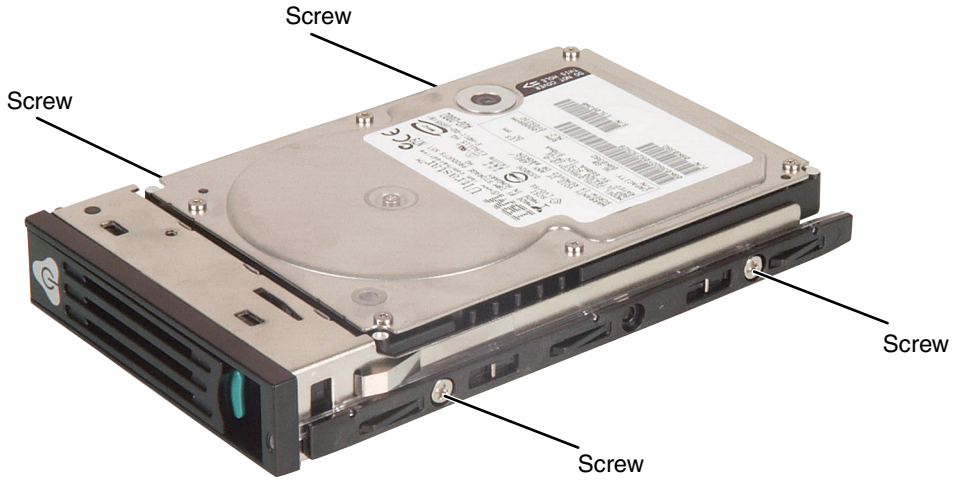
Before you remove a failed drive, use the appropriate software and utilities installed on the server to stop all activity on the failed drive. Instructions for using the software are provided by the software manufacturer. Failure to do so may destroy the data on the drive.

2 Press the green release button on the hot-swap tray lever, then swing the lever open all the way.

3 Pull the tray straight out of the server.

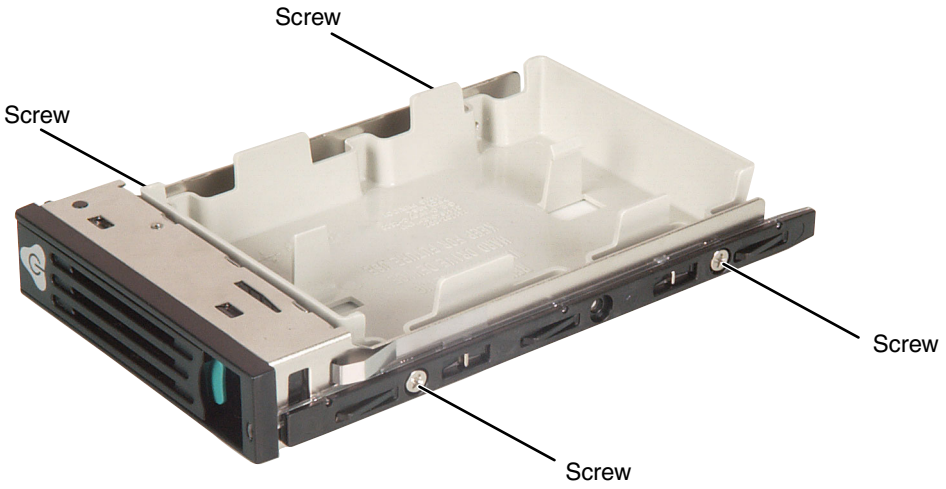


4 If you are replacing a hard drive, remove the four screws that secure the old hard drive to the drive tray, then remove the drive from the tray.



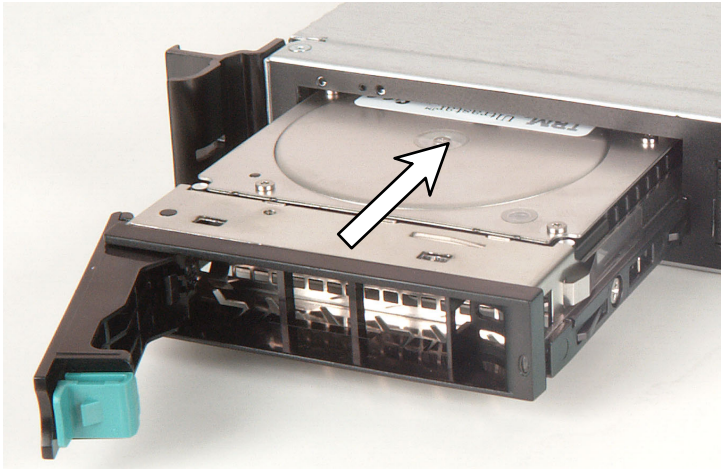
- OR -

If you are adding a new drive, remove the four screws that secure the hard drive spacer to the drive tray, then remove the spacer from the tray.



5 Line up the screw holes in the new drive with the holes in the side of the drive tray, then secure the drive to the tray with the four screws you removed in Step 4.

6 Make sure that the tray's release lever is open, then slide the new drive into the empty hot-swap bay.



7 Close the drive's release lever.

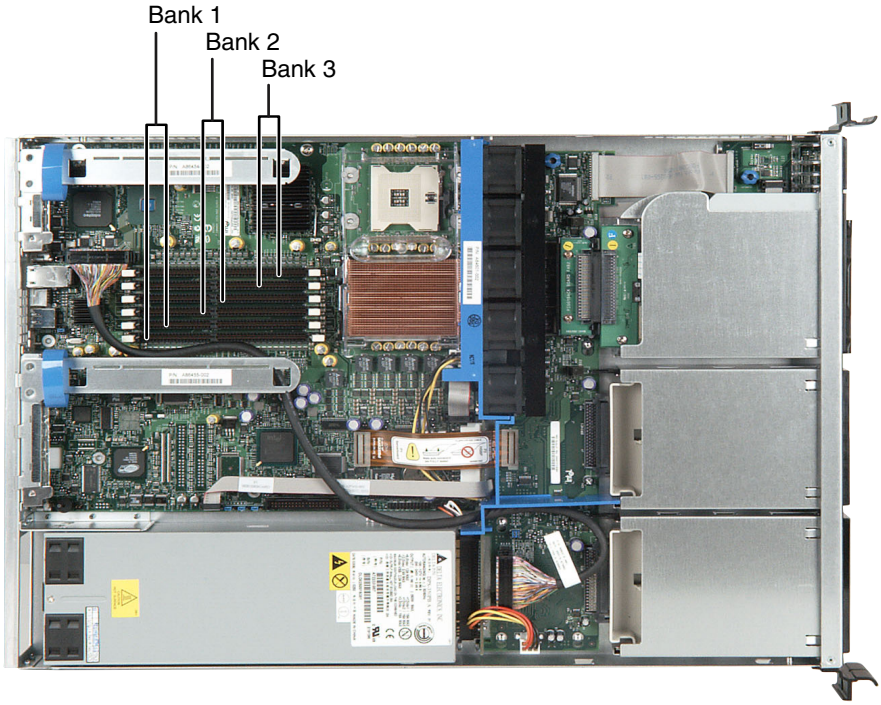
Installing memory

Modules must be installed in identical pairs. Use only low-profile (LP) 1.2-inch, DDR-266 compliant, SDRAM registered ECC, DIMM memory modules. First install modules into Bank 1, then Bank 2, then Bank 3. Supports up to 12 GB total memory.

Caution

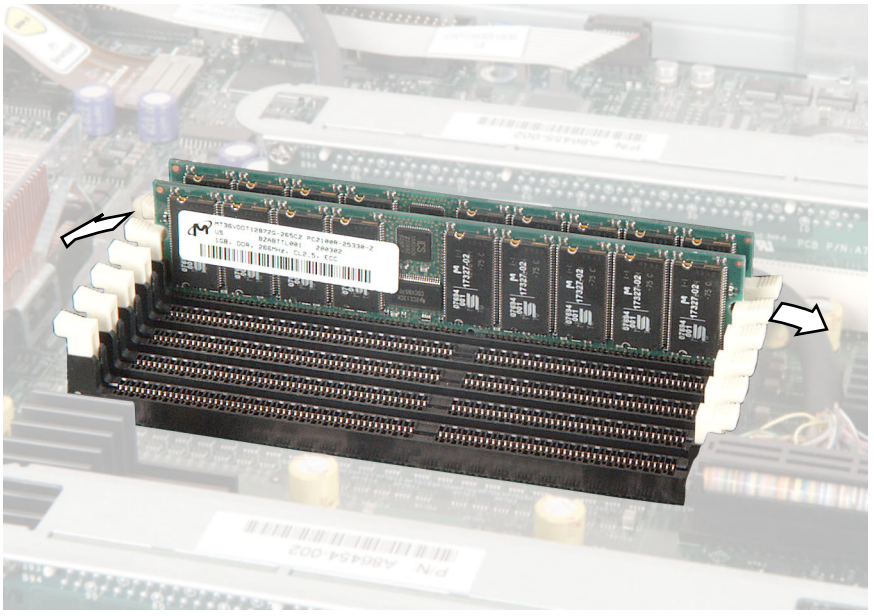
Modules must be installed in identical pairs. Use only low-profile (LP) 1.2-inch, DDR-266 compliant, SDRAM registered ECC, DIMM memory modules.

Install memory first into Bank 1, Bank 2, then Bank 3. If memory is installed incorrectly, your server will not start.



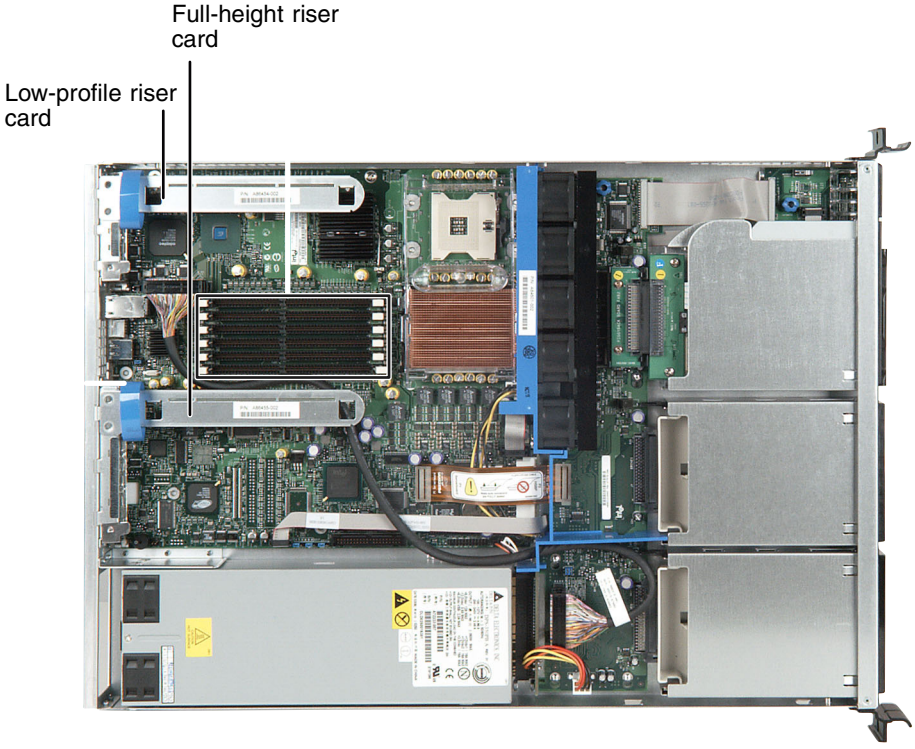
To install or replace memory:

1. Follow the instructions in "Preventing static electricity discharge" on page 45.
2. Follow the instructions in "Opening the server case" on page 46.
3. Pull the plastic tabs away from the sides of the memory module slot. If you are replacing a memory module, lift the old module out of the slot.



4. Align the notch on the new module with the notch in the memory module slot and press the module firmly into the slot. The tabs on the sides of the memory slot should secure the memory module automatically.
5. Follow the instructions in "Closing the server case" on page 48.
6. Turn on the server, then make sure that the operating system completely loads. If you receive an error, see "Memory" on page 108.

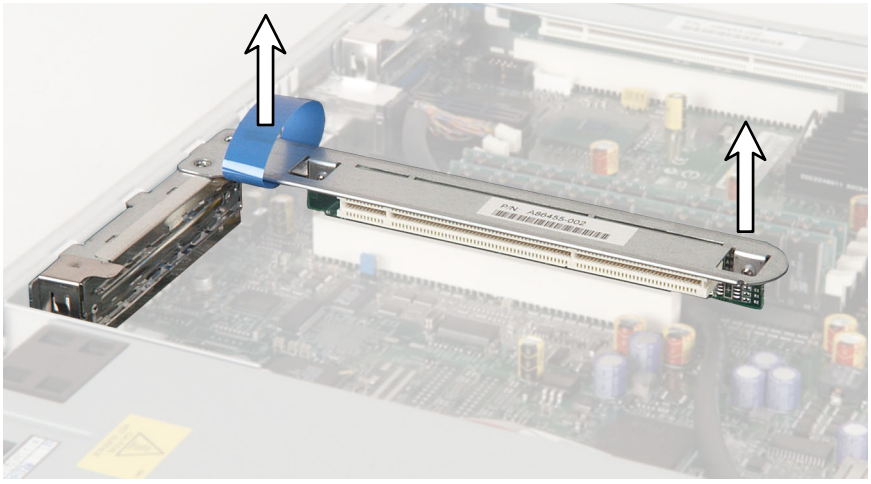
Installing PCI expansion cards



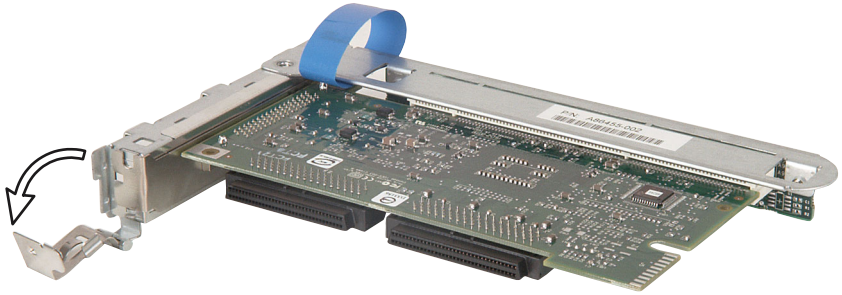
To replace, add, or reseat a PCI expansion card:

1. Follow the instructions in "Preventing static electricity discharge" on page 45.
2. Follow the instructions in "Opening the server case" on page 46.
3. If you are replacing a card, disconnect any cables that are attached to the old card.

4 Locate the appropriate riser card, then lift the riser card from the system board by lifting the blue plastic loop and the end of the riser card closest to the front of the server.



5 Pull the card locking clip open, then swing the locking clip away from the riser card.

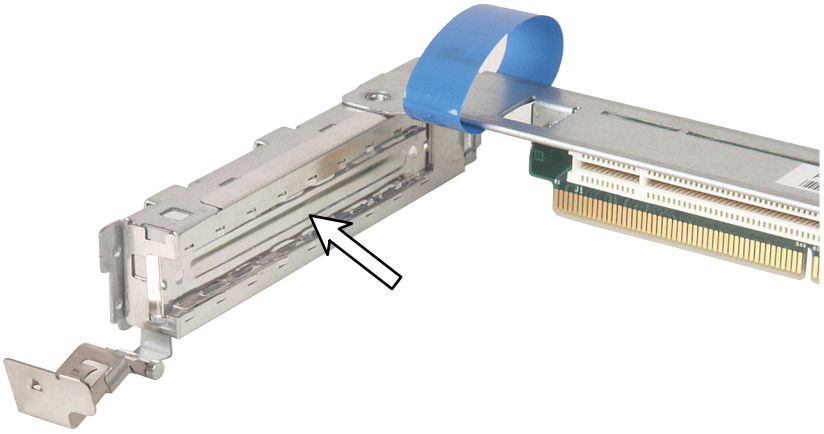


6 If you are replacing a card, remove the old expansion card. You can slightly seesaw the card end-to-end to loosen the card, but do not bend the card sideways.

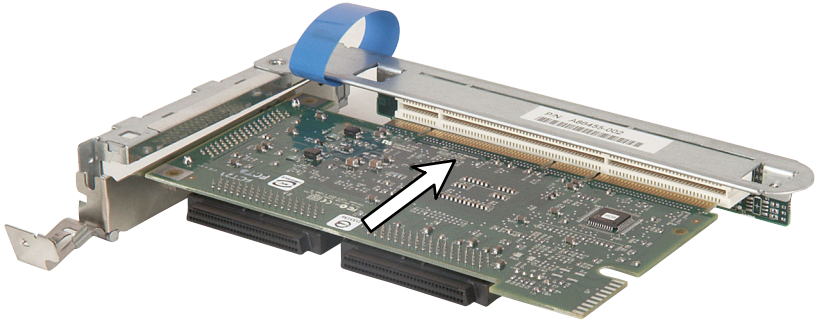
Warning

Do not touch the contacts on the bottom part of the expansion card. Touching the contacts can cause electrostatic damage to the card.

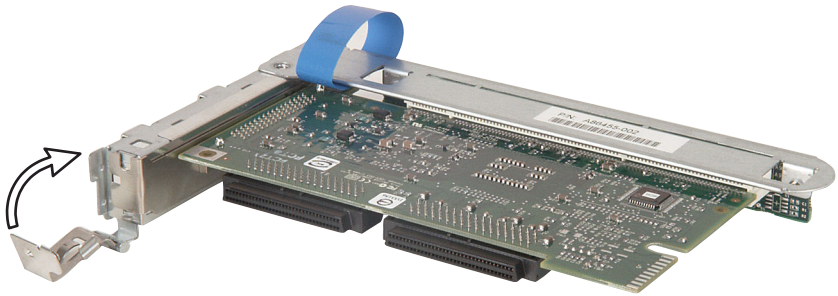
7 If this is the first time the slot will be used for an expansion card, remove the slot's EMI shield from the riser card by pushing it toward the back of the riser card.



8 Insert the new card into the card slot. You can slightly seesaw the card end-to-end to help insert the card, but do not bend the card sideways.



9 Rotate the card locking clip closed.



10 Connect any cables to the card following the instructions in the card's documentation.

11 Press the riser card back into the server.

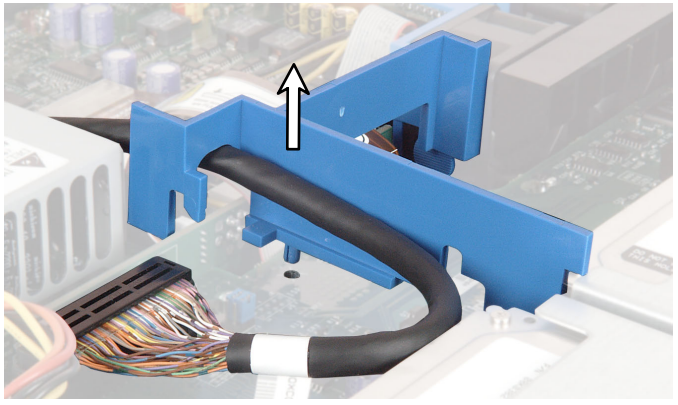
12 Follow the instructions in "Closing the server case" on page 48.

13 See the card's documentation for software installation instructions.

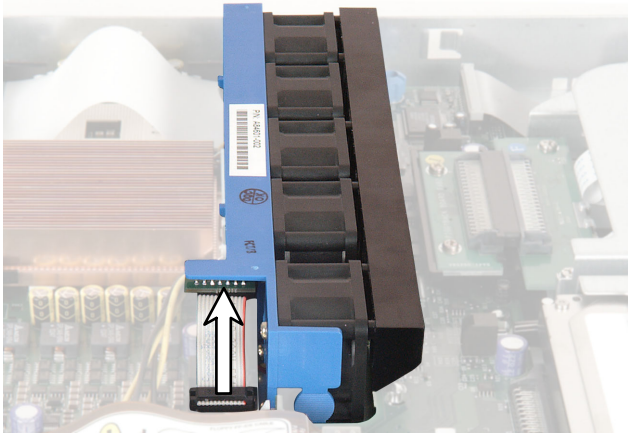
Replacing the fan module

To replace the fan module:

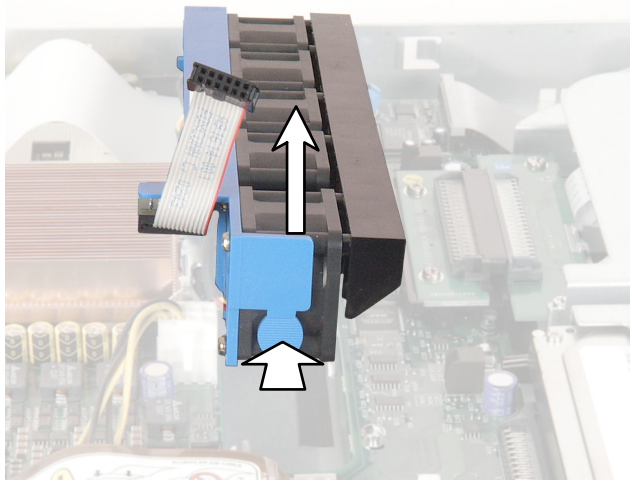
1. Follow the instructions in “Preventing static electricity discharge” on page 45.
2. Follow the instructions in “Opening the server case” on page 46.
3. Lift the air baffle away from the server.



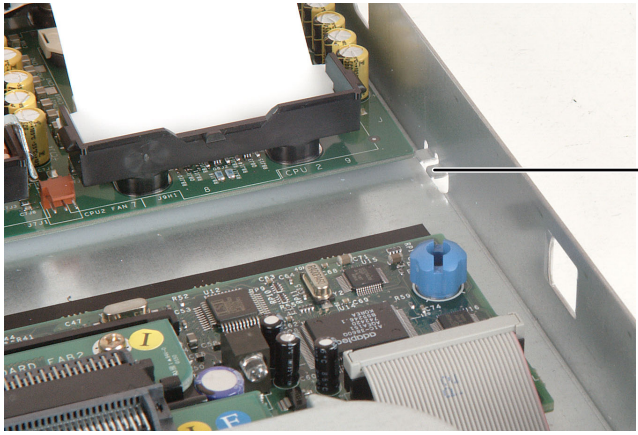
4. Unplug the fan module’s power cable from the system board.



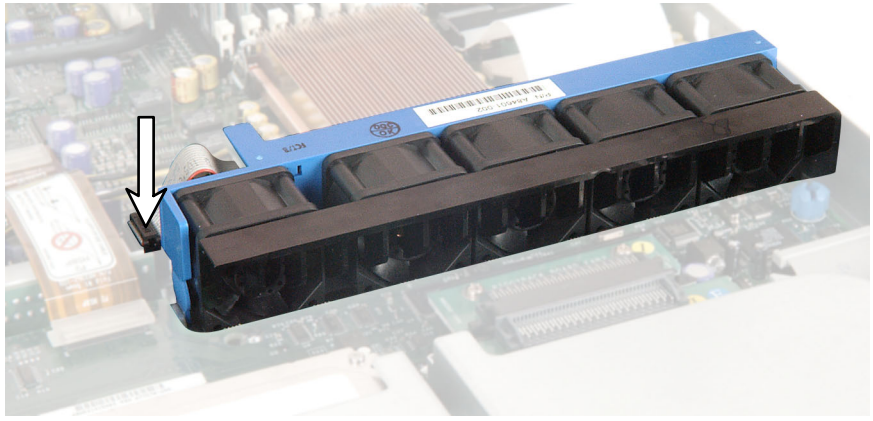
5 Press the module's release button, then lift the module away from the server.



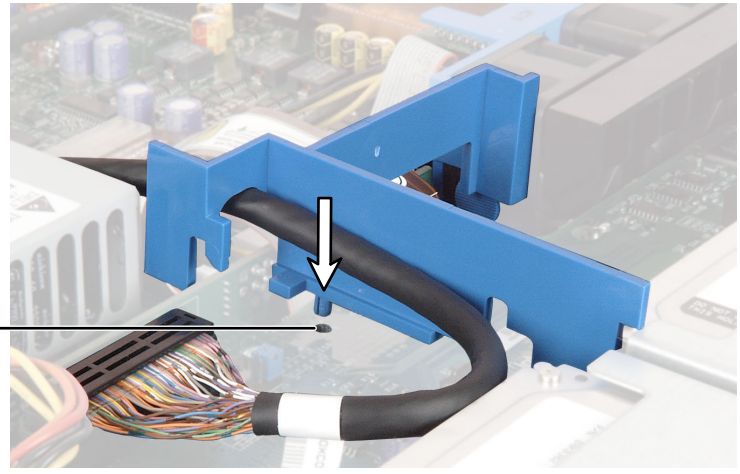
6 Insert one end of the new fan module under the module guide located on the right side of the case near the processors.



7 Press the module down until it clicks into place, then plug the fan module's power cable into the system board.



8 Insert the air baffle's mounting post into the mounting post hole. Make sure that the data cable is routed under the baffle.



9 Follow the instructions in "Closing the server case" on page 48.

Installing a processor

The server is compatible with Intel® Xeon processors. The server automatically detects the processors each time you turn on the server. Whenever you install new processors, you should first install the most current version of the BIOS. For instructions, see "Updating the BIOS" on page 91.

Important

You must have a processor in the Processor 1 socket, or your server will not start.

If you are upgrading your server from one processor to two, you may need to reconfigure your operating system so it can recognize the additional processor. For more information, see your operating system's documentation.

Warning

A heat sink must be installed on the processor. Installing a processor without a heat sink could damage the processor.

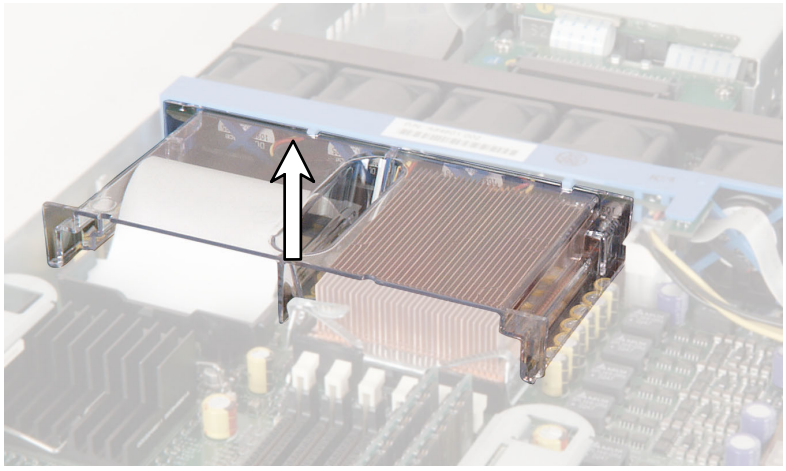
Warning

Processors and heat sinks may be hot if the computer has been running. Before replacing a processor or heat sink, allow them to cool for several minutes.

To replace a processor:

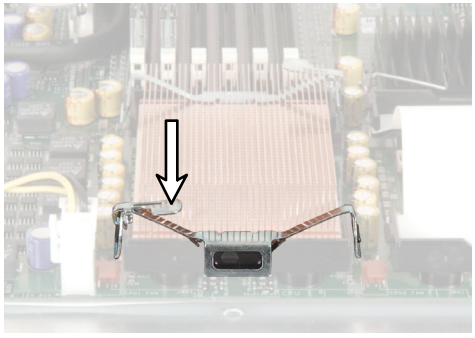
1. Install the most current BIOS version. For instructions, see "Updating the BIOS" on page 91.
2. Follow the instructions in "Preventing static electricity discharge" on page 45.
3. Follow the instructions in "Opening the server case" on page 46.

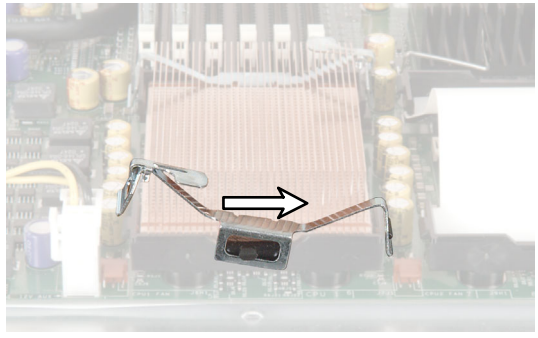
4 Lift the transparent air duct away from the processor sockets.



5 Remove the fan module. For instructions, see "Replacing the fan module" on page 64.

6 Press down on the heat sink locking clip's lever to detach the clip on the lever's side, then slide the clip toward the opposite end and remove it from the heat sink.





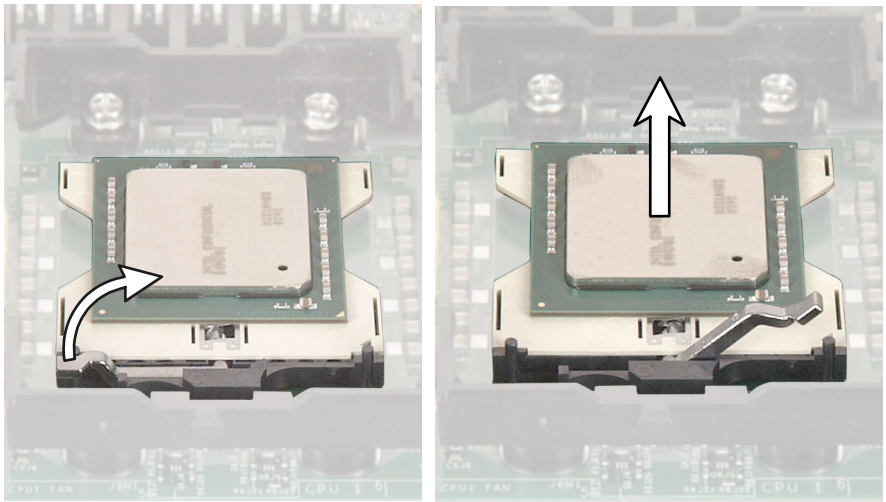
7 Remove the remaining clip.

8 Remove the heat sink.

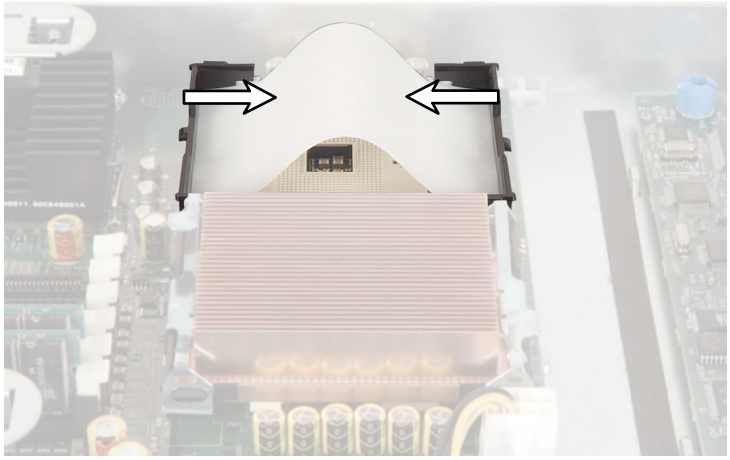
Important

The heat sink mounting paste may harden over time and hold the heat sink securely to the processor. If removing the heat sink also pulls the processor out of the processor socket, the processor should still be undamaged. Continue with the procedure.

9 Rotate the processor release lever a full 135° to release the processor, then lift the processor out of the socket.



10 If you are installing a processor into an empty processor socket that has an air dam installed, pinch the sides of the air dam together and lift it away from the socket.



11 Before inserting the processor into the socket, make sure that:

- The processor release lever is open all the way (135° from the closed position)
- The triangular arrow on the corner of the processor aligns with the triangular icon on the corner of the processor socket

Important

If you install two processors onto the system board, the processors must be the same speeds, revision, core voltage, and bus speed.

12 Install the new processor into the processor socket, then press the processor locking lever down until it lays flat against the processor socket.

13 Apply thermal grease to the top of the processor, if necessary.

14 Place the heat sink on the processor, then press the heat sink locking clips into place.

15 Follow the instructions in "Closing the server case" on page 48.

Replacing the power supply

Warning

The power supply in this server contains no user-serviceable parts. Only a qualified computer technician should service the power supply.

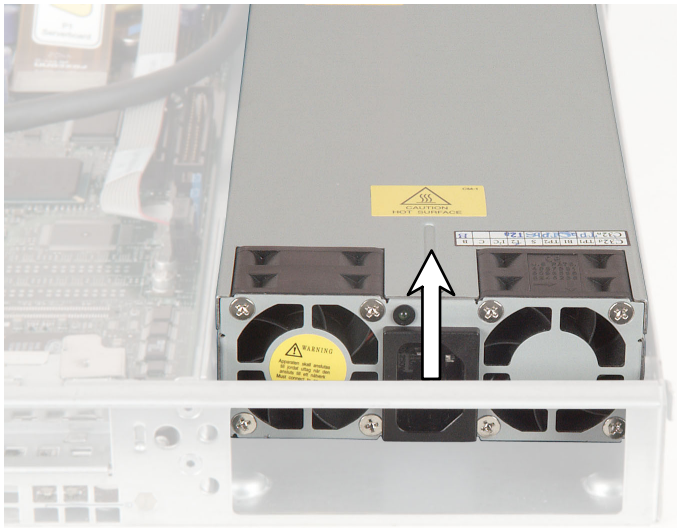
Your server comes with a 3-wire AC power cord fitted with the correct plug style for your region. If this plug does not match the connector on your surge protector, UPS, or wall outlet, do not attempt to modify the plug in any way. Use a surge protector, UPS, or wall outlet that is appropriate for the supplied AC power cord.

To replace the power supply:

1. Follow the instructions in "Preventing static electricity discharge" on page 45.
2. Follow the instructions in "Opening the server case" on page 46.
3. Lift the back of the power supply no more than ½ inch, just far enough to clear the metal tabs that hold the power supply in place.

4 Slide the power supply toward the back of the server until the power supply disconnects from the server.

5 Lift the power supply out of the case.



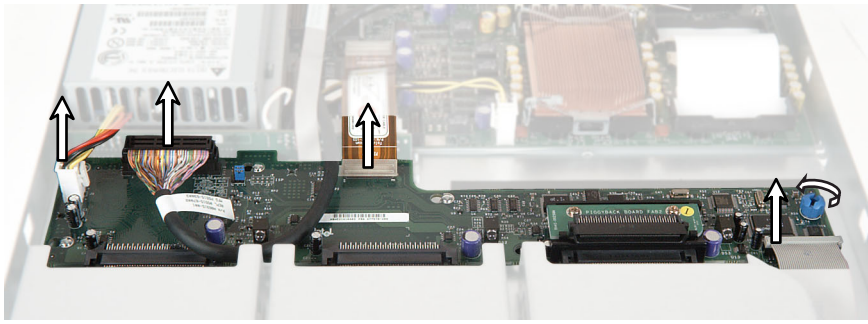
6 Lay the new power supply onto the metal tabs, then slide it toward the front of the server until the back of the power supply is secured behind the metal tabs.

7 Follow the instructions in "Closing the server case" on page 48.

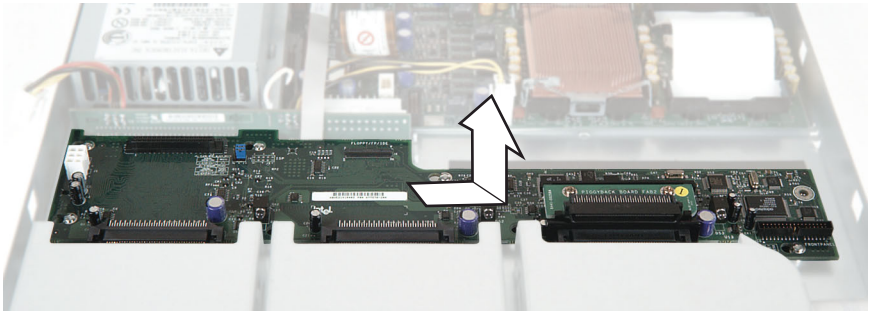
Replacing the SCSI backplane

To replace the SCSI backplane:

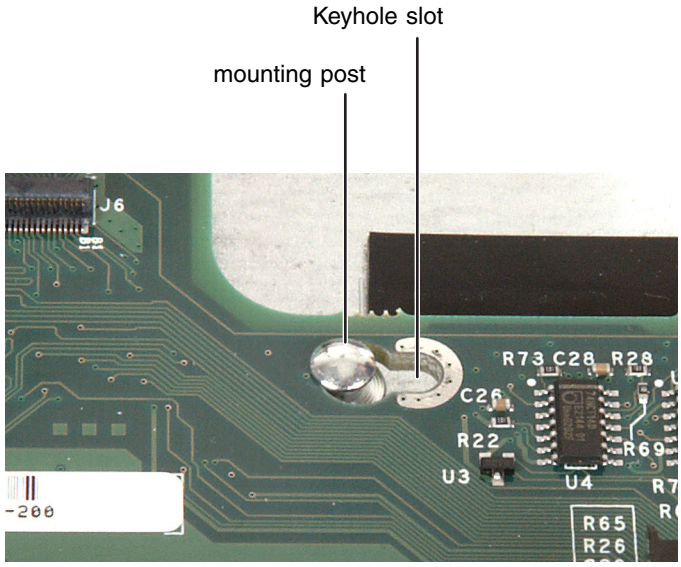
1. Follow the instructions in “Preventing static electricity discharge” on page 45.
2. Follow the instructions in “Opening the server case” on page 46.
3. Remove each of the drives from the server, including any drive in the Flex Bay, and make note of which bay you remove each drive from. For instructions, see “Replacing the CD/diskette drive in the Flex Bay” on page 49 and “Installing a hard drive” on page 54.
4. Remove the fan module. For instructions, see “Replacing the fan module” on page 64.
5. Remove the cables from the backplane board, then remove the thumbscrew.



6 Slide the backplane about 1/8 inch to the right, then lift it away from the server.



7 Align the new backplane's keyhole slots with the mounting posts on the floor of the server case, then slide the backplane 1/8 inch to the left.



8 Install the thumbscrew to secure the backplane to the server, then reattach the cables you removed in Step 5.

9 Install the drives back into the server. Make sure that you replace the drives in the same bays you removed them from in Step 3.

10 Reinstall the fan module.

11 Follow the instructions in "Closing the server case" on page 48.

Replacing the CMOS battery

If the server clock does not keep time or the settings in the BIOS Setup utility are not saved when you turn off the server, replace the CMOS battery with an equivalent battery.

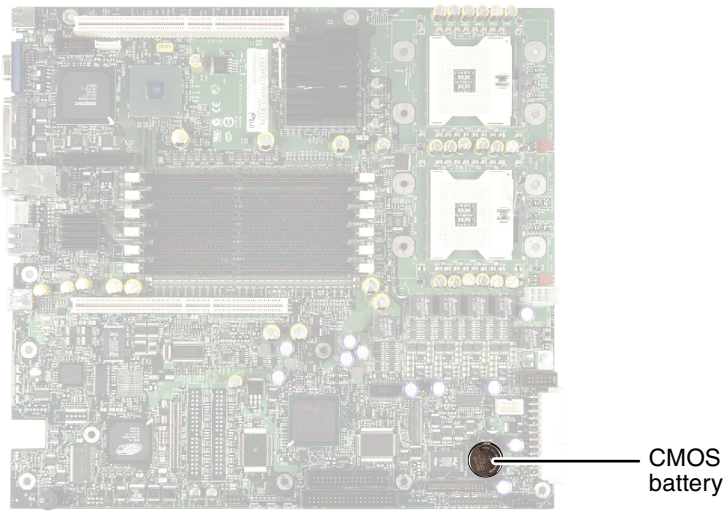
Warning

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of or recycle used batteries by taking them to a hazardous waste facility. Follow all local regulations for proper battery disposal.

To replace the battery:

1. Print the appendix for BIOS Settings in this guide.
2. Open the BIOS Setup utility. For instructions, see "Opening the BIOS Setup utility" on page 90.
3. Record the BIOS settings on your printout, then close the utility.
4. Turn off your server, then follow the instructions in "Preventing static electricity discharge" on page 45.
5. Follow the instructions in "Opening the server case" on page 46.

6 Locate the old battery on the system board and note its orientation. You will need to install the new battery the same way.



7 Push the battery retention clip away from the battery until the battery lifts up, then remove the old battery. You can use a screwdriver to help lift the battery.

8 Make sure that the positive (+) side of the new battery is facing up, then press the new battery into the socket until it snaps into place.

9 Follow the instructions in "Closing the server case" on page 48.

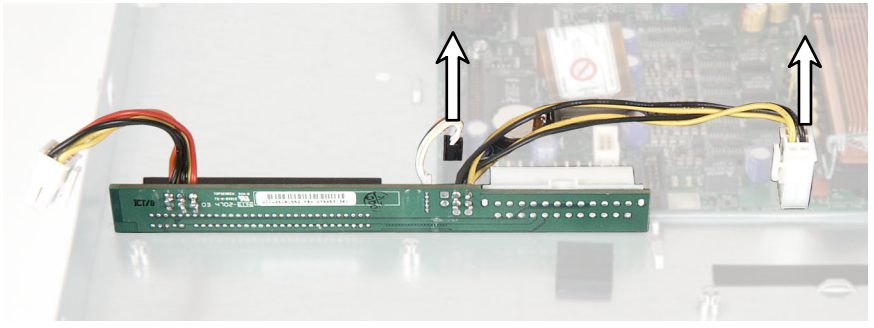
10 Turn on your server, then press **F2** when the Gateway logo screen appears during startup.

11 Restore any BIOS settings that you wrote down in Step 3.

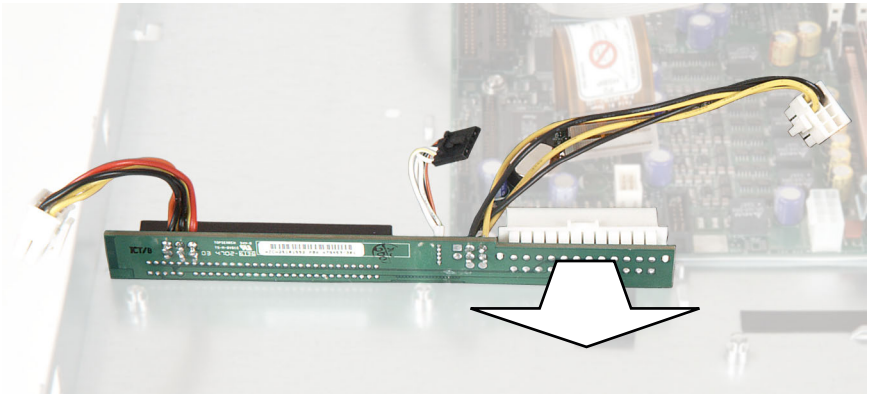
12 Save all your settings and close the BIOS Setup utility.

Replacing the power distribution board

1. Follow the instructions in “Preventing static electricity discharge” on page 45.
2. Follow the instructions in “Opening the server case” on page 46.
3. Remove each of the drives from server, including any drive in the Flex Bay. For instructions, see “Installing a hard drive” on page 54 and “Replacing the CD/diskette drive in the Flex Bay” on page 49.
4. Remove the power supply. For instructions, see “Replacing the power supply” on page 71.
5. Remove the air baffle and the fan module. For instructions, see “Replacing the fan module” on page 64.
6. Remove the SCSI backplane. For instructions, see “Replacing the SCSI backplane” on page 74.
7. Unplug the two power distribution cables that connect to the system board.



8 Pull the power distribution board toward the front of your server until it disconnects from the system board.



9 Plug the new power distribution board into the system board, then reconnect the power distribution board cables.

10 Reinstall the SCSI backplane, then reinstall the power supply.

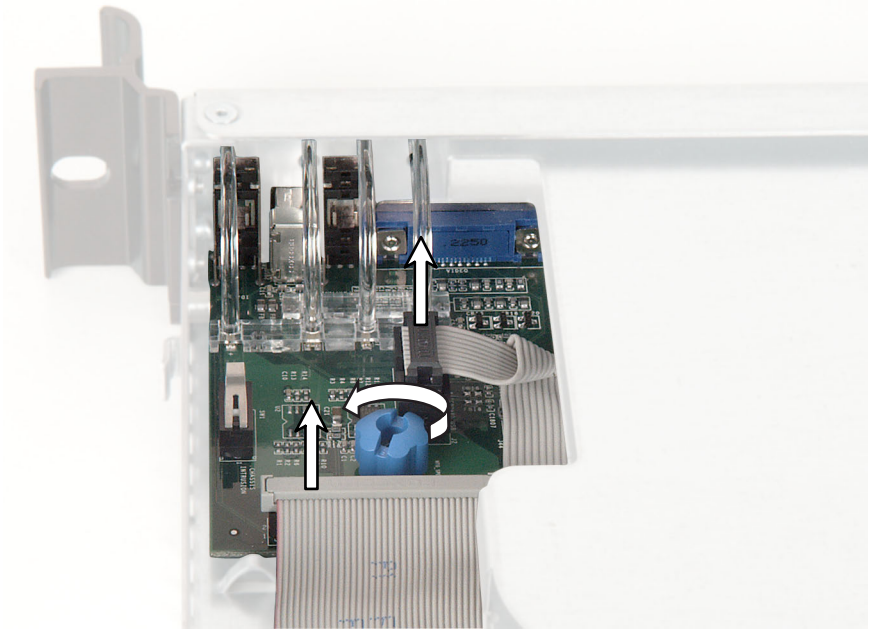
11 Reinstall the air baffle and fan module.

12 Reinstall the drives.

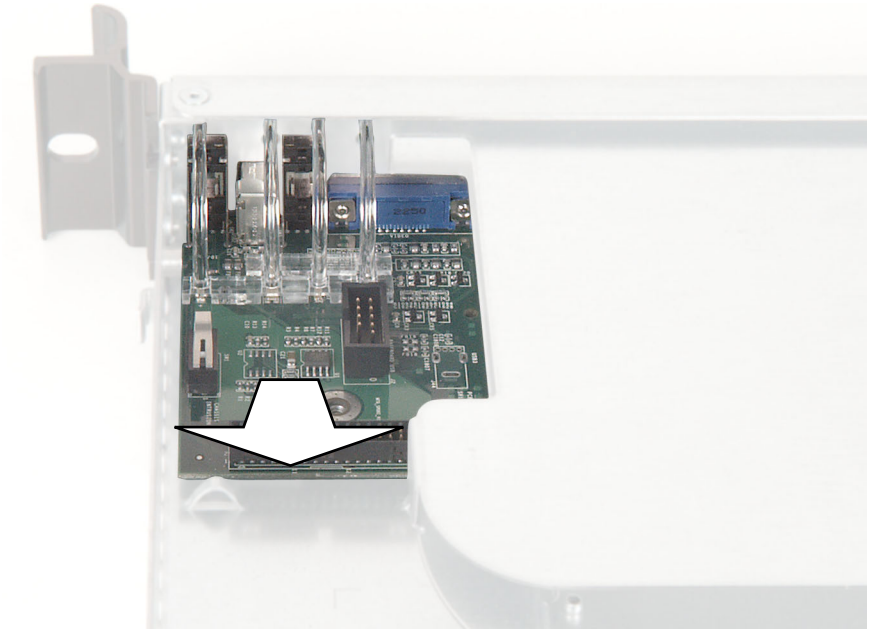
13 Follow the instructions in "Closing the server case" on page 48.

Replacing the front panel board

1. Follow the instructions in “Preventing static electricity discharge” on page 45.
2. Follow the instructions in “Opening the server case” on page 46.
3. Remove the two cables from the front panel board, then remove the thumbscrew.



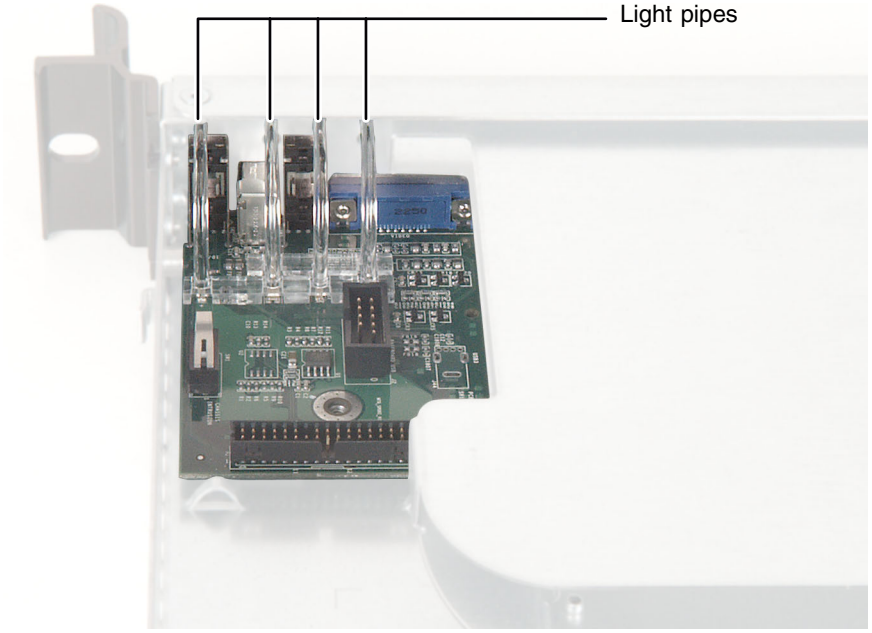
4 Lift the back of the board 1/8 inch, then pull it toward the back of your server.



5 Insert the new front panel board so the light pipes align with their corresponding holes in the front panel.

Warning

Forcing the board into place without carefully guiding the light pipes into their holes will damage the light pipes.



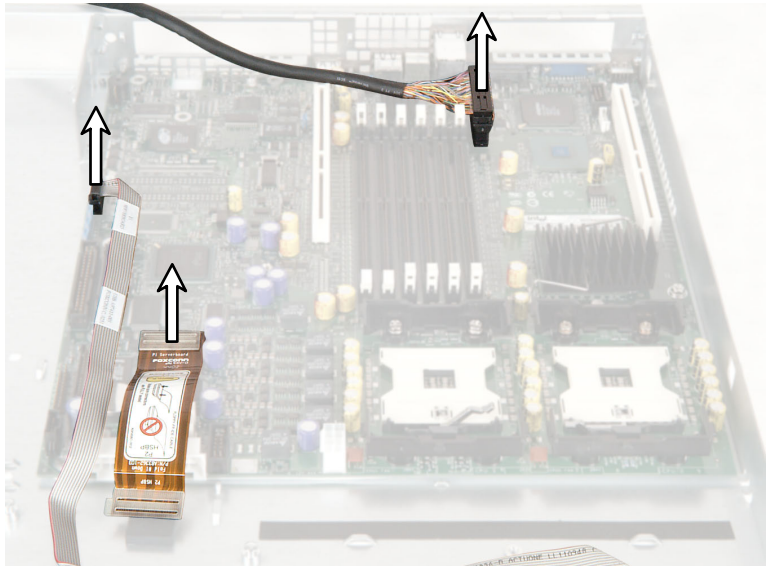
6 Install the thumbscrew to secure the board to the server, then reconnect the cables.

7 Follow the instructions in "Closing the server case" on page 48.

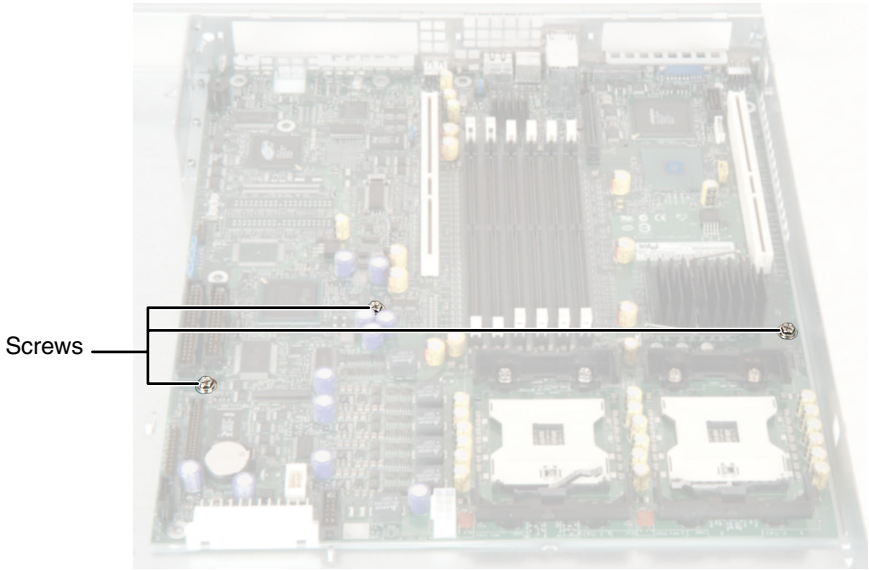
Replacing the system board

To replace the system board:

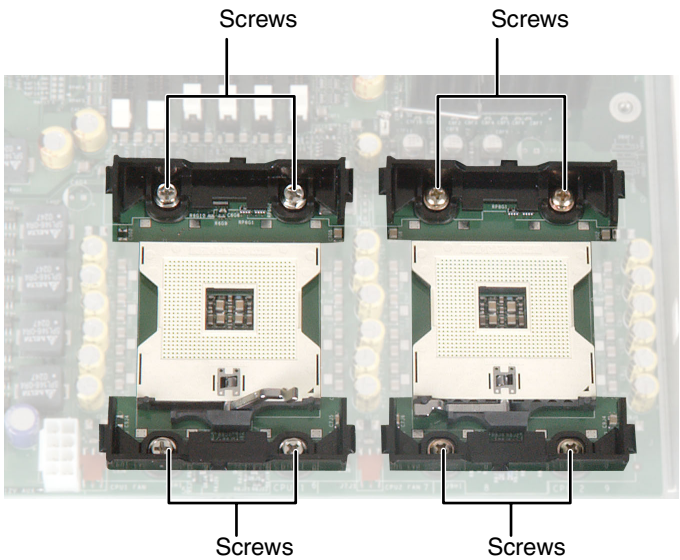
1. Follow the instructions in “Preventing static electricity discharge” on page 45.
2. Follow the instructions in “Opening the server case” on page 46.
3. Remove the memory modules. For instructions, see “Installing memory” on page 58.
4. Remove the riser cards. For instructions, see “Installing PCI expansion cards” on page 60.
5. Remove the fan module. For instructions, see “Replacing the fan module” on page 64.
6. Remove the heat sinks and processors. For instructions, see “Installing a processor” on page 67.
7. Disconnect all cables from the system board, noting their locations and orientation. (You will reconnect the cables after you install the new board.)



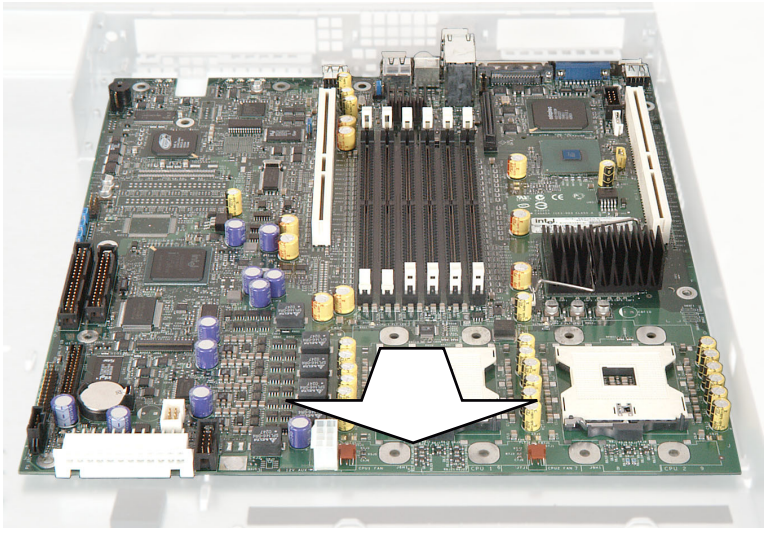
8 Remove the three screws that secure the system board to the server.



9 Remove the eight screws that secure the heat sink brackets to the system board, then remove the brackets.

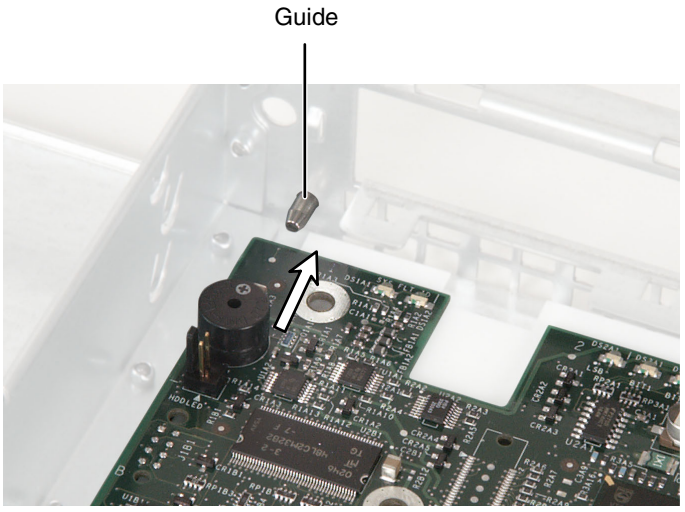


10 Slide the system board toward the front of the server. If the board is difficult to move, push on the rear I/O port panel for added leverage.



11 Lift the board away from the case.

12 Insert the new system board into the case, then slide the board toward the back of the case so the board is held under the system board guides.



13 Replace the three system board screws you removed in Step 8.

14 Reinstall the heat sink brackets.

15 Reinstall the memory, processors, and fan module.

16 Reinstall the riser cards. For instructions, see “Installing PCI expansion cards” on page 60.

17 Follow the instructions in “Closing the server case” on page 48.

18 Turn on your server, then press **F2** when the Gateway logo screen appears during startup.

19 Check BIOS settings to make sure that they detect the server’s new hardware, then save your changes (if any) and close the BIOS Setup utility.

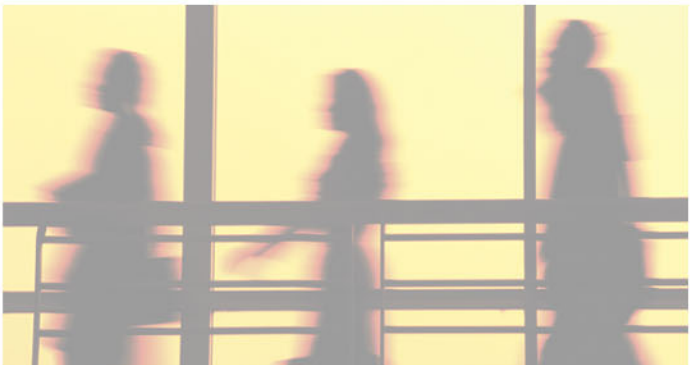
20 If your server does not start after installing the new system board, contact Technical Support. For more information, see “Getting Help” on page 6.

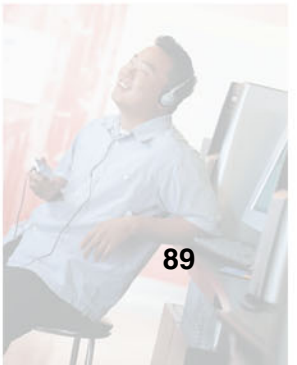
Using the BIOS Setup Utility

5

Read this chapter to learn how to:

- Open the BIOS Setup utility
- Update the BIOS
- Reset the BIOS settings to their factory defaults
- Reset the BIOS passwords





Opening the BIOS Setup utility

The BIOS Setup utility stores basic settings for your server. These settings include basic hardware configuration, resource settings, and password security. These settings are stored and saved even when the power is off.

Caution

The options in the BIOS Setup utility have been set at the factory for optimal performance. Changes to these settings will affect the performance of your server.

Before changing any settings, write them down in case you need to restore them later. You can record the settings on a printout of this guide's appendix for "BIOS Settings" on page 119.

To open the BIOS Setup utility:

1. Restart your server, then press **F2** when the Gateway logo screen appears during startup.

   When you select menu items, the Item Specific Help box on the right side of the screen displays specific information about the selection. The command bar across the bottom of the screen shows the keys you press to access help, navigate through the menus, and perform other tasks.

2. Select one of these menus:

   - **Main** gives you access to basic information and settings related to your server's hardware and configuration.
   - **Advanced** gives you access to information and settings for PCI, peripheral devices, memory, and the chipset.
   - **Security** gives you access to settings related to system access passwords. For more information, see "Server security" on page 29.
   - **Server** gives you access to settings for system management, console redirection, event log configuration, and fault-resilient boot settings.
   - **Boot** gives you access to information and settings for startup features and startup sequences.
   - **Exit** gives you access to options for closing the BIOS Setup utility.

Updating the BIOS

If you need a new version of the BIOS, you can download the BIOS update from Gateway, then install the new version from a diskette.

To update the BIOS:

1. Print the appendix for "BIOS Settings" on page 119.
2. Restart your server, then press **F2** when the Gateway logo screen appears during startup.
3. Record any custom BIOS settings on your printout.
4. Download the BIOS update from support.gateway.com.
5. Follow the instructions in the self-extracting BIOS update file.
6. Enter any custom BIOS settings you recorded in Step 3, then save your changes and close the BIOS Setup utility.

Resetting the BIOS

You can use two methods to clear all BIOS Setup settings and return them to the factory defaults:

- Press the power and reset buttons on the front of the server.
- Move the Clear BIOS jumper on the system board.

To reset the BIOS using the power and reset buttons:

1. Print the appendix for BIOS Settings in this guide.
2. Restart your server, then press **F2** when the Gateway logo screen appears during startup.
3. Record any custom BIOS settings on your printout.
4. Press the reset button and hold it down for four seconds or more, then press the power button while continuing to hold down the reset button.
5. Release both buttons at the same time. The BIOS is reset.

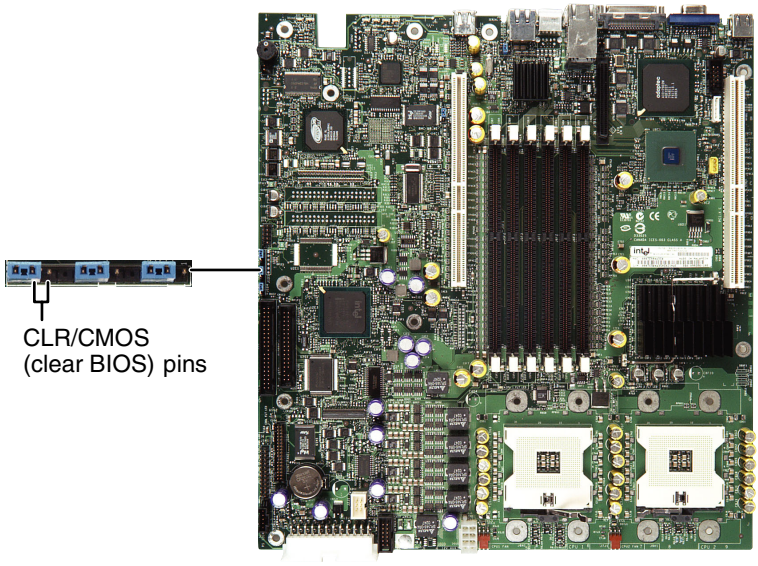
To reset the BIOS using the system board jumper:

1. Print the appendix for BIOS Settings in this guide.
2. Restart your server, then press **F2** when the Gateway logo screen appears during startup.
3. Record any custom BIOS settings on your printout.
4. Follow the instructions in "Preventing static electricity discharge" on page 45.
5. Turn off the server, then disconnect the power cord and all other cables connected to the server.
6. Remove the top panel. For instructions, see "Opening the server case" on page 46.

Warning

Moving the jumper while the power is on can damage your server. Always turn off the server and unplug the power cord and all other cables before changing the jumper.

7 Place a jumper across the CLR/CMOS pins of jumper J1D4, then remove the jumper. The BIOS settings are cleared.



8 Follow the instructions in "Closing the server case" on page 48.

Resetting BIOS passwords

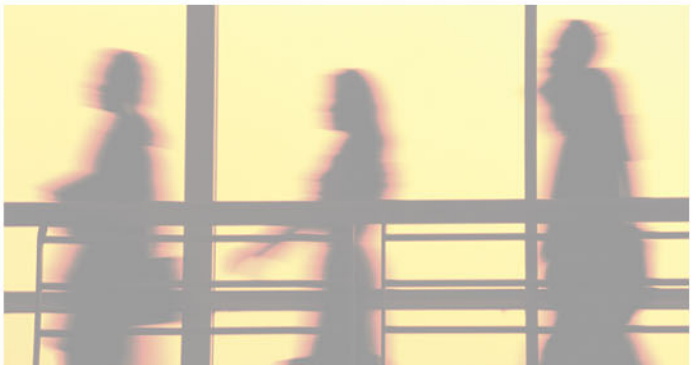
To reset BIOS passwords, you must reset and clear all BIOS settings. To reset BIOS passwords, follow the instructions in "Resetting the BIOS" on page 92.

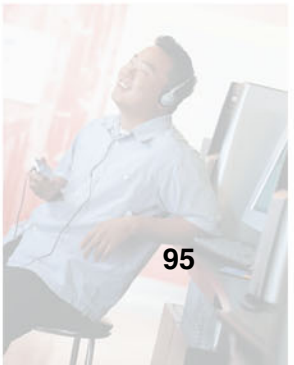
6 Troubleshooting

Read this chapter to learn how to:

- Get telephone support and training
- Interpret error messages and codes
- Troubleshoot

If the suggestions in this chapter do not correct the problem, see "Telephone support" on page 96 for more information about how to get help.





Telephone support

Before calling Gateway Technical Support

If you have a technical problem with your server, follow these recommendations before contacting Gateway Technical Support:

- Make sure that your server is connected correctly to a grounded AC outlet that is supplying power.
- If a peripheral device, such as a keyboard or mouse, does not appear to work, make sure that all cables are plugged in securely and plugged into the correct port or jack.
- If you have recently installed hardware or software, make sure that you have installed it following the instructions provided with it. If you did not purchase the hardware or software from Gateway, see the manufacturer's documentation and technical support resources.
- If you have "how to" questions about using a program, see:
  - The program's online Help
  - The program's documentation
  - Your operating system's documentation
  - The software or hardware manufacturer's Web site
- See "Troubleshooting" on page 102.
- Have your client ID, serial number (located on the back of your server case), and order number available, along with a detailed description of your issue, including the exact text of any error messages, and the steps you have taken.
- Make sure that your server is nearby at the time of your call. The technician may have you follow appropriate troubleshooting steps.
- Consider using Gateway's Internet technical support. Gateway's Web site has FAQs, tips, and other technical help. You can also use the Web site to e-mail Technical Support. For more information, visit Gateway's Technical Support Web site at support.gateway.com.

Telephone support

Gateway offers a wide range of customer service, technical support, and information services.

Telephone numbers

You can access the following services through your telephone to get answers to your questions:

Resource	Service description	How to reach
Fax on demand support	Order a catalog of documents on common problems, then order documents by document numbers. The documents will be faxed to you.	800-846-4526 (US) 877-709-2951 (Canada)
Tutorial support	Learn networking tips from Gateway's tutorial support on a per-issue fee basis.	877-485-1464 (US) 800-846-3609 (Canada and Puerto Rico) 605-232-2191 (all other countries) 800-846-1778 (TDD)
Gateway Technical Support	Talk to a Gateway Technical Support representative about a non-tutorial technical support question. (See "Before calling Gateway Technical Support" on page 96 before calling.) Technical support is available 24 hours a day, seven days a week, 365 days a year. TDD Technical Support (for hearing impaired) is available: Weekdays 6:00 a.m. - 8:00 p.m. Central Time Weekends 6:00 a.m. - 5:00 p.m. Central Time	877-485-1464 (US) 800-846-3609 (Canada and Puerto Rico) 605-232-2191 (all other countries) 800-846-1778 (TDD)
Sales, accounting, and warranty	Get information about available systems, pricing, orders, billing statements, warranty service, or other non-technical issues.	800-846-2000 (US) 888-888-2037 (Canada)

Tutoring and training

Gateway's Technical Support professionals cannot provide hardware and software training. Instead, Gateway recommends the following training resources.

Resource	Service description	For more information
In-store training at Gateway stores	Our friendly and knowledgeable software trainers can teach you how to use the Internet and the most popular software programs, including Microsoft Word, Excel, and PowerPoint.	www.gateway.com/country
Gateway Learning Libraries	A variety of courses and tutorials are available on CD. Select from several easy-to-use learning libraries.	www.gateway.com/training
Online training from Learn@Gateway	More than 450 online courses are available from Learn@Gateway. All you have to do is go online and log in. You select the subject matter and the learning format (self-paced tutorials or virtual classrooms), all from the comfort of your computer.	www.learnatgateway.com/

Safety guidelines

While troubleshooting your server, follow these safety guidelines:

- Never remove the top panel while your server is turned on and while the modem cable and the power cord is connected.
- Do not attempt to open the monitor. To do so is extremely dangerous. Even if the power is disconnected, energy stored in the monitor components can be dangerous. Also, opening the monitor voids its warranty.
- Make sure that you are grounded correctly before opening the server. For more information about preventing damage from static electricity, see "Preventing static electricity discharge" on page 45.
- After you complete any maintenance task where you have to open the server case, make sure that you close the case and reconnect all cables before you restart your server.

Warning

To avoid bodily injury, do not attempt to troubleshoot your server problem if:

- The power cord or plug is damaged
- Liquid has been spilled into your server
- Your server was dropped
- The case was damaged

Instead, unplug your server and contact a qualified computer technician. If your server was damaged during shipment from Gateway, contact Gateway Technical Support. For more information, see "Telephone support" on page 96.

Error messages

These messages often indicate procedural errors such as typing an incorrect keystroke or trying to save a file to a write-protected diskette. Some messages, however, may indicate a problem that requires further troubleshooting.

Diskette drive 0 seek to track 0 failed

- Restart your server, then open the BIOS Setup utility by pressing and holding **F2** while your server restarts. Make sure that the drive settings are correct.

Error loading operating system

- The master boot record may be corrupt. For troubleshooting information, see "The master boot record is corrupted" on page 107.

Hard disk controller failure

- Make sure that the hard drive cable is connected securely.
- Restart your server, then open the BIOS Setup utility by pressing and holding **F2** while your server restarts. Make sure that the correct drive type is selected.

Hard disk controller failure - press F1 to try reboot

- The drive controller may be defective. Press **F1** to try to restart the server. For more information about running diagnostics on your hard drive, see your operating system's documentation.

Insert bootable media device

- Restart your server, then open the BIOS Setup utility by pressing and holding **F2** while your server restarts. Make sure that the drive settings are correct.
- See "Your server does not recognize a SCSI drive" on page 107 for a possible solution.

Invalid configuration information

- Restart your server, then open the BIOS Setup utility by pressing and holding **F2** while your server restarts. Make sure that the settings are correct.
- Reset the BIOS. For instructions, see "Resetting the BIOS" on page 92.

Invalid partition table

- The master boot record may be corrupt. For troubleshooting information, see "The master boot record is corrupted" on page 107.

Invalid password

- Enter your password again. Some passwords are case sensitive.
- If you do not know the password, you may need to reinstall the software you are trying to access.
- System startup passwords are stored in BIOS. If this password has been set and you do not know it, you may be able to reset the password through system board jumper settings. For instructions, see "Resetting BIOS passwords" on page 93.

Memory errors were detected while the system started up

- See "Memory errors were detected during server start up" on page 108 for a possible solution.

Memory size error

- Restart your server, then open the BIOS Setup utility by pressing and holding **F2** while your server restarts. Save the memory configuration.

Missing operating system

- The master boot record may be corrupt. For troubleshooting information, see "The master boot record is corrupted" on page 107.

System Event Log Full

- Clear the event log. To clear or view the event log, restart your server, then open the BIOS Setup utility by pressing and holding **F2** while your server restarts. Select the **Server** menu, then select the **Event Log Configuration** menu.

Troubleshooting

First steps

Try these steps first before going to the following sections:

- Make sure that the power cord is connected to your server and an AC outlet and that the AC outlet is supplying power.
- If you use a surge protector or a UPS, make sure that it is turned on and is rated to handle the power required by your server.
- If you added or removed server components before the problem started, review the installation procedures you performed and make sure that you followed each instruction. You may need to remove the device, uninstall the device's software, then reinstall the device.
- If an error message appears on the screen, write down the exact message before calling Gateway Technical Support. For more information, see "Telephone support" on page 96.
- Restart your server, then open the BIOS Setup utility by pressing and holding **F2** while your server restarts. Check your configuration settings.
- When diagnosing problems, press the non-maskable interrupt (NMI) button with a straightened paper clip to put the server into a halt state. For the location of the button, see "Control panel" on page 2.
- If an error occurs in a program, see its documentation or online help.

Warning

To avoid bodily injury, do not attempt to troubleshoot your server problem if:

- The power cord or plug is damaged
- Liquid has been spilled into your server
- Your server was dropped
- The case was damaged

Instead, unplug your server and contact a qualified computer technician.

Battery replacement

If you have problems after installing a new CMOS battery, try each of the following items, closing the case and restarting the server after each try:

- Restart your server, then open the BIOS Setup utility by pressing and holding **F2** while your server restarts. Correct any discrepancies.

- Remove the top panel by following the instructions in "Opening the server case" on page 46, then make sure that all cables inside the case are attached securely. Also, make sure that the colored cable edges are aligned correctly and that the connectors do not miss any pins.

Warning

To avoid bodily injury, do not attempt to troubleshoot your server problem if:

- The power cord or plug is damaged
- Liquid has been spilled into your server
- Your server was dropped
- The case was damaged

Instead, unplug your server and contact a qualified computer technician.

- If you have the correct test equipment, make sure that the new battery has power. Although unlikely, your new battery may be defective.

Beep codes

Whenever a recoverable error occurs during the power-on self-test (POST), the BIOS displays an error message that describes the problem. The BIOS also sounds a beep code for errors when video is not available for text messages.

A PCI expansion card (for example, a RAID controller) can also issue audible errors by itself, usually consisting of one long tone followed by a series of short tones. For more information on the beep codes issued, check the documentation for that device.

Beeps	Description	Troubleshooting steps
1	The memory refresh circuitry on the system board is faulty.	Reseat the memory or replace with modules you know are good.
2	Parity cannot be reset.	Same as for 1 beep.
3	Base memory test failure.	Same as for 1 beep.
4	System timer is not operational.	Remove all expansion cards. ▪ If the beep code occurs even when all expansion cards have been removed, the system board may be at fault. Contact Gateway Technical Support. ▪ If the beep code does not occur when the expansion cards have been removed, one of the cards is causing the problem. Install the cards one at a time until the problem happens again. When the beep code returns, the most recent card you installed is at fault.
5	Processor failure detected.	▪ Set the Retest Processor option to **Yes** in the BIOS Setup utility. ▪ Reseat the processor and start the server again.
6	The keyboard controller may be bad. The BIOS cannot switch to protected mode.	▪ Connect a keyboard that you know is good. ▪ If the error occurs when a keyboard is not attached, contact Gateway Technical Support.
7	The processor generated an exception interrupt.	Same as for 5 beeps.
8	The server's video memory is faulty. This is not a fatal error.	The system board may be faulty. Call Technical Support.
9	The ROM checksum value does not match the value encoded in the BIOS.	Same as for 4 beeps.
10	The shutdown register for CMOS RAM failed.	Same as for 4 beeps.
11	General BIOS ROM error.	Update the BIOS. For instructions, see "Updating the BIOS" on page 91.

BIOS

The settings in the BIOS Setup utility are not retained

- Replace the CMOS battery. For instructions, see "Replacing the CMOS battery" on page 77.

CD drive

Your server does not recognize a CD or the CD drive

- Restart your server, then open the BIOS Setup utility by pressing and holding **F2** while your server restarts. Make sure that the IDE controllers are enabled. For more information, see "Using the BIOS Setup Utility" on page 89.
- Reinstall the device driver. For instructions, see *Using Your Server Companion CD*.
- Make sure that the drive is configured correctly by following the instructions in the drive's documentation.
- Turn off your server, then remove the combination drive and push it in again to make sure the drive is seated correctly. For instructions, see "Replacing the CD/diskette drive in the Flex Bay" on page 49.

Your CD drive tray does not open

- Press a straightened paper clip wire into the CD drive's manual eject hole. The drive tray opens.
- If this problem happens frequently while the server is turned on, the drive may be defective.

Diskette drive

The diskette drive is not recognized

- Restart your server.
- Turn off your server, then remove the combination drive and push it in again to make sure the drive is seated correctly. For instructions, see "Replacing the CD/diskette drive in the Flex Bay" on page 49.

The diskette drive LED is lit continuously

- Remove the diskette from the drive. If the light stays on, try restarting your server.
- Turn off your server, then remove the combination drive and push it in again to make sure the drive is seated correctly. For instructions, see "Replacing the CD/diskette drive in the Flex Bay" on page 49.

Expansion cards

Your server does not recognize an expansion card

- Restart your server.
- Make sure that you have installed the necessary software or driver. For instructions, see the card's documentation.
- Reseat the expansion card and the riser card. For instructions, see "Installing PCI expansion cards" on page 60.

Hard drive

The hard drive cannot be accessed, or you receive a "General failure reading drive C" error message

- If a diskette is in the diskette drive, eject it and restart your server by pressing the reset button.
- Restart your server by pressing the reset button.
- Turn off your server, then remove all hard drives and push them in again to make sure the drives are seated correctly. For instructions, see "Installing a hard drive" on page 54.
- Run a verification from the SCSI BIOS.
- If your server has been subjected to static electricity or physical shock, you may need to reinstall the operating system.

You receive a "Non-system disk" or "disk error" error message

- Eject the diskette from the diskette drive, then press ENTER.
- Make sure that your hard drive has an active partition. For more information, see "The master boot record is corrupted" on page 107.

Your server does not recognize a SCSI drive

- Make sure that the SCSI controller is enabled in the BIOS Setup utility.
- Reinstall the device driver. For instructions, see *Using Your Server Companion CD*.
- Change the drive's SCSI address to one that is not being used by your server. For more information about SCSI device configurations, see your drive's documentation.
- Run SCSI Verify in the SCSI BIOS. For more information about the SCSI BIOS, see the SCSI controller's documentation.
- Turn off your server, then remove all hard drives and push them in again to make sure the drives are seated correctly. For instructions, see "Installing a hard drive" on page 54.

The master boot record is corrupted

- In a Windows network operating system, repair the master boot record using FDISK.

To repair the master boot record:

- At a DOS command prompt, type **fdisk/mbr**, then press ENTER.

Internet

See also *Modem*.

You cannot connect to the Internet

- Make sure that your account with your Internet Service Provider (ISP) is set up correctly. Contact your ISP technical support for help.
- Make sure that you do not have a problem with your modem. For instructions, see "Modem (telephone dial-up)" on page 108.

Keyboard

Liquid has been spilled into the keyboard

- If you spilled liquid in the keyboard, turn off your server and unplug the keyboard. Clean the keyboard and turn it upside down to drain it. Let the keyboard dry before using it again. If the keyboard does not work after it dries, you may need to replace it. This type of damage is not covered by your server's warranty.

Memory

Memory errors were detected during server start up

- Open your server and make sure that the memory modules are installed correctly. For instructions, see "Installing memory" on page 58.
- A memory module may be defective. If possible, try another memory module and see if the error repeats.

Modem (telephone dial-up)

See also *Internet*.

Your modem does not dial or does not connect

- Make sure that your server is connected to the telephone line and the telephone line has a dial tone.
- Make sure that the modem cable is less than 6 feet (1.8 meters) long.
- Remove any line splitters or surge protectors from your telephone line, then check for a dial tone by plugging a telephone into the telephone jack.
- If you have additional telephone services such as call waiting, call messaging, or voice mail, make sure that all messages are cleared and call waiting is disabled before using the modem. Contact your telephone service to get the correct code to temporarily disable the service. Also make sure that the modem dialing properties are set correctly.
- If you purchased the modem from Gateway, contact Gateway Technical Support.

To check the dialing properties in Windows:

1. In Windows 2000 Server, click **Start**, **Settings**, then click **Control Panel**. The *Control Panel* window opens.

   - OR -

   In Windows Server 2003, click **Start**, then click **Control Panel**. The *Control Panel* window opens.

2. Click/Double-click the **Modems** icon, then click **Dialing Properties**. The *Dialing Properties* dialog box opens.

3. Make sure that all settings are correct.

- Make sure that you are not using a digital, rollover, or PBX line. These lines do not work with your modem.
- Check for line noise (scratchy, crackling, or popping sounds). Line noise is a common problem that can cause the modem to connect at a slower rate, abort downloads, or even disconnect. The faster the modem, the less line noise it can tolerate and still work correctly.

  Listen to the line using your telephone. Dial a single number (such as 1). When the dial tone stops, listen for line noise. Wiggle the modem cable to see if that makes a difference. Make sure that the connectors are free from corrosion and all screws in the wall or telephone jack are secure.

  You can also call your telephone service and have your telephone line checked for noise or low line levels.
- Try connecting with the modem at a lower connection speed. If reducing the connection speed lets you connect, contact your telephone service. The telephone line may be too noisy.
- Try another telephone line (either a different telephone number in your business or a telephone line at a different location). If you can connect on this line, call your telephone service.

Your 56K modem does not connect at 56K

Current FCC regulations restrict actual data transfer rates over public telephone lines to 53K. Other factors, such as line noise, telephone service provider equipment, or ISP limitations, may lower the speed even further.

If your system has a v.90 modem, the speed at which you can upload (send) data is limited to 33.6K. If your system has a v.92 modem, the speed at which you can upload data is limited to 48K. Your ISP may not support 48K uploads.

The modem is not recognized by your server

- If the modem shares the telephone line with another device, make sure that the telephone line is not in use (for example, someone is on the telephone, or another modem is in use).
- Shut down and restart your server.
- Reinstall the modem device driver. For instructions, see *Using Your Server Companion CD*.
- Open your server and reseat the modem. For instructions, see "Installing PCI expansion cards" on page 60.

Monitor

Your server is running but there is no picture

- Adjust the brightness and contrast controls to the center position.
- Make sure that the monitor is plugged in and turned on. If the monitor is turned on, the power LED should be lit.
- Check the port and cable for bent or damaged pins.
- Connect your monitor to another computer, or connect a monitor that you know works to your server.

The color is not uniform

Make sure that the monitor warms up for at least 30 minutes before making a final judgment about color uniformity.

Make sure that:

- The monitor is not positioned too close to another monitor, electric fan, or fluorescent light.
- You demagnetize the screen using the monitor's degauss feature. For more information on degauss, see the monitor's documentation.

A horizontal line or wire is visible across the monitor screen

The monitor may use thin *damper* wires, located approximately 1/3 of the way from the upper and lower screen edges, to stabilize the internal aperture grille. These wires are most obvious when the monitor displays a white background. The aperture grille allows more light to pass through the screen for brighter colors and greater luminescence. The damper wire is a critical part of the overall monitor design and does not negatively affect the monitor's function.

Power

You press the power button, but the server does not turn on

- If the power button LED is green, the server is turned on, but you may not be seeing an image on the monitor. For monitor troubleshooting, see "Monitor" on page 110.
- If your server is plugged into a surge protector or UPS, make sure that the surge protector or UPS is connected securely to an electrical outlet, turned on, and working correctly. One way to check this is to plug the server directly into a wall outlet, bypassing the surge protector or UPS.
- Make sure that the electrical outlet is working by plugging a working device, such as a lamp, into the outlet, then turning it on to test the outlet.
- Open your server and make sure that the power supply cable and power button cable are connected correctly to the system board.

When you turn on the server, it makes several short beeps

- The short beeps indicate the server has encountered some type of error. See "Beep codes" on page 103.

Processor

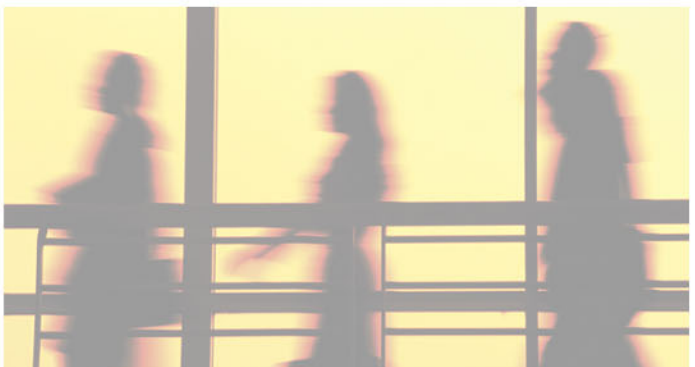
Your server does not recognize a new processor

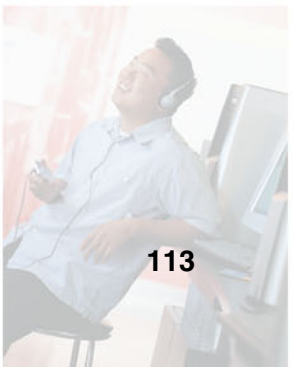
- Make sure that the processor is fully seated in its socket. The processor should be recognized automatically if it is installed correctly.
- Set the Retest Processor option in the BIOS Setup utility to **Yes**.
- If you have upgraded your server from one processor to two, you may need to reconfigure your operating system so it recognizes the additional processor. For more information, see your operating system's documentation.

A

Server Specifications

The following specifications are for the standard configuration. Your server may contain optional equipment. All specifications are subject to change.





System specifications

Case size	24.25 × 17 × 11/16 inches (61.6 × 43.2 × 1.75 cm) (without handles)
Weight	Varies by configuration. A fully loaded server weighs about 30 lbs. (13.6 kg)
Fans	One fan module, containing five 40 mm fans
Ports	▪ PS/2 keyboard or mouse (1) ▪ USB (3) ▪ Serial (RJ-45) ▪ VGA (2) ▪ SCSI (1) ▪ LAN (2) (RJ-45)
Drives (standard)	One drive module contains: ▪ 3.5-inch diskette ▪ CD-ROM
Card sizes	Supports full-length, full-height and low-profile PCI expansion cards
Power supply	350 W
Operating systems	Supports Windows 2000 Server and Windows Server 2003 Compatible with: ▪ Windows NT ▪ Novell NetWare 6
Certifications	▪ FCC Class A ▪ UL ▪ cUL

System board specifications

Processor	Dual socket 604 package 533 MHz system bus Supports as many as two Intel Xeon CPUs
Chipset	Intel E7501 ▪ 533 MHz FSB ▪ MCH memory controller (Northbridge) ▪ ICH3 I/O controller (Southbridge)
Memory	▪ Six DIMM slots support from 256 MB to 12 GB total memory ▪ Use only low-profile (LP) 1.2-inch, DDR266 compliant, ECC, registered, 72-bit, 168-pin, SDRAM modules.
PCI device/slot	Two PCI riser boards: ▪ One full-length, full-height 64-bit PCI riser ▪ One low-profile (LP) 64-bit PCI riser
VGA	On-board ATI Rage XL ▪ 8 MB SDRAM ▪ Up to 1600 × 1200 (2D) ▪ Up to 1024 × 768 (3D)
LAN	▪ Intel 82546EB controller ▪ Dual onboard 10/100/1000 network interface ▪ IEEE 850.3u auto-negotiation support ▪ Full duplex support
SCSI	▪ Adaptec AIC-7902W controller ▪ Dual-channel Ultra320 LVD SCSI channels ▪ Accessible at back panel
ACPI	ACPI compliance Supports: ▪ S0 ▪ S1 ▪ S4 ▪ S5

Environmental specifications

The following specifications identify maximum environmental conditions. At no time should the server run under conditions which violate these specifications.

Variable	Requirements
Temperature	Maximum rate of change: 18°F (10°C) per hour Nonoperating: -55° to 150°F (-48.3° to 65.5°C) Operating: 41° to 95°F (5° to 35°C); derated 0.9°F (0.5°C) for every 1,000 feet (305 meters). Use of 2 GB DIMMs derates the server to 86°F (30°C)
Altitude	10,000 feet (3,048 meters) maximum
Humidity	Operating wet bulb: Not to exceed 91.4°F (33 °C) (with diskette drive or hard drive) Nonoperating: 95% relative (noncondensing) at 86° F (30° C)

Additional specifications

For more information about your server, such as memory size, hard drive size, and processor type, visit Gateway's *eSupport* page at support.gateway.com. The *eSupport* page also has links to additional Gateway documentation and detailed specifications for your own server.

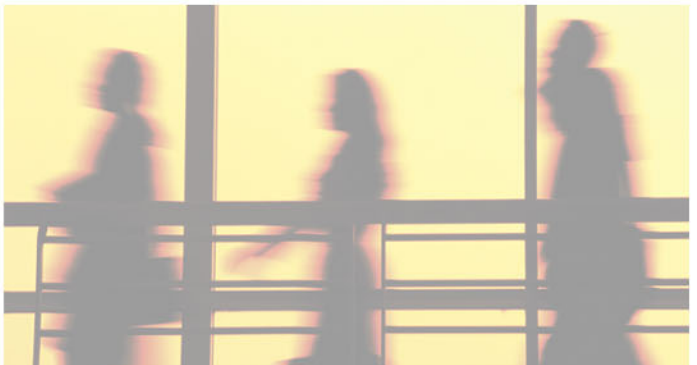
B

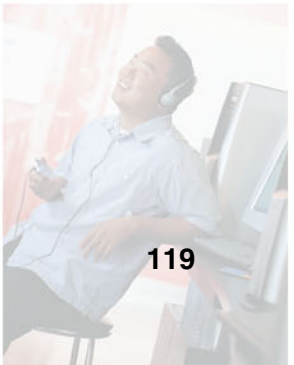
BIOS Settings

If you ever need to restore your BIOS settings, such as after a system board change, a record of the settings will make the process much easier. You can print this appendix, then record your custom BIOS settings on the printout. Only settings which can be changed are listed. For a complete list of viewable BIOS settings, run the BIOS Setup utility.

To view all BIOS settings:

1. Restart your server, then press **F2** when the Gateway logo screen appears during startup. The BIOS Setup utility opens.
2. Select menus and submenus to display setting information.





BIOS menu	BIOS submenu	Setting	Value
Main			
		System Time	
		System Date	
		Floppy A	
		Hard Disk Pre-Delay	
Primary IDE Master		Type	
Primary IDE Slave		Type	
Secondary IDE Master		Type	
Processor Settings		Processor Retest	
Processor Settings		Hyper-Threading Technology	
		Language	
Advanced			
PCI Configuration		USB Function	
PCI Configuration	Onboard NIC	Onboard NIC	
PCI Configuration	Onboard NIC	Onboard NIC 1 ROM	
PCI Configuration	Onboard NIC	Onboard NIC 2 ROM	
PCI Configuration	Onboard SCSI	Onboard SCSI	
PCI Configuration	Onboard SCSI	Onboard SCSI ROM	
PCI Configuration		Onboard Video	
PCI Configuration		PCI SLOT 1B ROM	
PCI Configuration		PCI SLOT 1C ROM	
Peripheral Configuration		Serial 1 (DB-9) Address	
Peripheral Configuration		Serial 1 (DB-9) IRQ	

BIOS menu	BIOS submenu	Setting	Value
Peripheral Configuration		Serial 2 (RJ45) Address	
Peripheral Configuration		Serial 2 (RJ45) Address	
Peripheral Configuration		Diskette Controller	
Peripheral Configuration		Legacy USB Support	
Peripheral Configuration		Front Panel USB	
Memory Configuration		Extended Memory Test	
Memory Configuration		BANK #1	
Memory Configuration		BANK #2	
Memory Configuration		BANK #3	
Memory Configuration		Memory Retest	
Advanced Chipset Control		Wake On Ring	
Advanced Chipset Control		Wake On LAN/PME PCI-X B	
Advanced Chipset Control		Wake On PME PCI-X C	
Advanced Chipset Control		Wake On RTC Alarm	
		Boot-time Ping Screen	
		Reset Config Data	
		Num lock	

BIOS menu	BIOS submenu	Setting	Value
Security			
		Set Admin Password	
		Password On Boot (setting available only when user password is set)	
		Fixed Disk Boot Sector	
		Video Blanking (setting available only when user password is set)	
		Power Switch Inhibit	
		NMI Control	
Server			
		System Management	
Console Redirection		BIOS Redirection Port	
		ACPI Redirection	
		Band Rate	
		Flow Control	
		Terminal Type	
		Serial Port Connector	
Event Log Configuration		Clear All Event Logs	
Event Log Configuration		Event Logging	
Event Log Configuration		Critical Event Logging	
Fault Reslient Booting		Late POST Timeout	
Fault Reslient Booting		Fault Resilient Booting	

BIOS menu	BIOS submenu	Setting	Value
Fault Reslient Booting		Hard Disk OS Boot Timeout	
Fault Reslient Booting		PXE OS Boot Timeout	
		Assert NMI on PERR	
		Assert NMI on SERR	
		FRB-2 Policy	
		POST Error Pause	
		Boot Monitoring	
		Boot Monitoring Policy	
Boot			
Boot Device Priority		1st Boot Device	
Boot Device Priority		2nd Boot Device	
Boot Device Priority		3rd Boot Device	
Boot Device Priority		4th Boot Device	
Removable Devices		1st	
ATAPI CDROM Drives		1st ATAPI CDROM	

Safety, Regulatory, and Legal Information

C

Important safety information

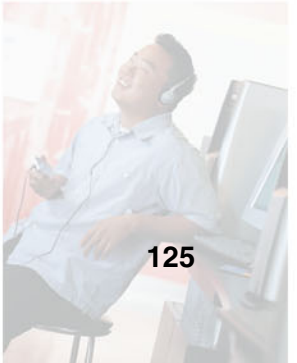
Your Gateway system is designed and tested to meet the latest standards for safety of information technology equipment. However, to ensure safe use of this product, it is important that the safety instructions marked on the product and in the documentation are followed.

Warning

Always follow these instructions to help guard against personal injury and damage to your Gateway system.

Setting up your system

- Read and follow all instructions marked on the product and in the documentation before you operate your system. Retain all safety and operating instructions for future use.
- Do not use this product near water or a heat source such as a radiator.
- Set up the system on a stable work surface.



- The product should be operated only from the type of power source indicated on the rating label.
- If your computer has a voltage selector switch, make sure that the switch is in the proper position for your area. The voltage selector switch is set at the factory to the correct voltage.
- Openings in the computer case are provided for ventilation. Do not block or cover these openings. Make sure you provide adequate space, at least 6 inches (15 cm), around the system for ventilation when you set up your work area. Never insert objects of any kind into the computer ventilation openings.
- Some products are equipped with a three-wire power cord to make sure that the product is properly grounded when in use. The plug on this cord will fit only into a grounding-type outlet. This is a safety feature. If you are unable to insert the plug into an outlet, contact an electrician to install the appropriate outlet.
- If you use an extension cord with this system, make sure that the total ampere rating on the products plugged into the extension cord does not exceed the extension cord ampere rating.
- If your system is fitted with a TV Tuner, cable, or satellite receiver card, make sure that the antenna or cable system is electrically grounded to provide some protection against voltage surges and buildup of static charges.

Care during use

- Do not walk on the power cord or allow anything to rest on it.
- Do not spill anything on the system.
- Some products have a replaceable CMOS battery on the system board. There is a danger of explosion if the CMOS battery is replaced incorrectly. Replace the battery with the same or equivalent type recommended by the manufacturer. Dispose of batteries according to the manufacturer's instructions.
- When the computer is turned off, a small amount of electrical current still flows through the computer. To avoid electrical shock, always unplug all power cables and modem cables from the wall outlets before cleaning the system.
- Unplug the system from the wall outlet and refer servicing to qualified personnel if:
  - The power cord or plug is damaged.
  - Liquid has been spilled into the system.
  - The system does not operate properly when the operating instructions are followed.
  - The system was dropped or the cabinet is damaged.
  - The system performance changes.

Replacement parts and accessories

Use only replacement parts and accessories recommended by Gateway.

Important

Do not use Gateway products in areas classified as hazardous locations. Such areas include patient care areas of medical and dental facilities, oxygen-laden environments, or industrial facilities.

Warning

To reduce the risk of fire, use only No. 26 AWG or larger telecommunications line cord.

Regulatory compliance statements

United States of America

Federal Communications Commission (FCC)
Unintentional emitter per FCC Part 15

FCC Part 15 Class A Statement

The server is designated as complying with Class A requirements if it bares the following text on the rating label:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

This device has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

Caution

Changes or modifications not expressly approved by Gateway could void the FCC compliance and negate your authority to operate the product.

Telecommunications per FCC part 68
(applicable to products fitted with USA modems)

Your modem complies with Part 68 of the Federal Communications Commission (FCC) rules. On the computer or modem card is a label that contains the FCC registration number and Ringer Equivalence Number (REN) for this device. If requested, this information must be provided to the telephone company.

An FCC-compliant telephone line cord with a modular plug is required for use with this device. The modem is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68-compliant. See installation instructions for details.

The Ringer Equivalence Number (REN) is used to determine the number of devices which may be connected to the telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

If this device causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. The telephone company may request that you disconnect the equipment until the problem is resolved.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of this equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

This equipment cannot be used on telephone company-provided coin service. Connection to party line service is subject to state tariffs. Contact the state public utility commission or public service commission for information.

When programming or making test calls to emergency numbers:

- Remain on the line and briefly explain to the dispatcher the reason for the call.
- Perform such activities in the off-peak hours such as early morning or late evenings.

The United States Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent, an identification of the business, other entity, or other individual sending the message, and the telephone number of the sending machine or such business, other entity, or individual. Refer to your fax communication software documentation for details on how to comply with the fax-branding requirement.

FCC declaration of conformity

Responsible party:

Gateway Companies, Inc.
610 Gateway Drive, North Sioux City, SD 57049
(605) 232-2000 Fax: (605) 232-2023

Product:

- Gateway 955 Server

For unique identification of the product configuration, please submit the 10-digit serial number found on the product to the responsible party.

This device complies with Part 15 of the FCC Rules. Operation of this product is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution

Changes or modifications not expressly approved by Gateway could void the FCC compliance and negate your authority to operate the product.

Canada

Industry Canada (IC)
Unintentional emitter per ICES-003

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe A prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.

Telecommunications per Industry Canada CS03 (for products fitted with an IC-compliant modem)

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operation, and safety requirements. The Department does not guarantee the equipment will operate to the users' satisfaction.

Before installing this equipment, users should make sure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the inside wiring associated with a single-line individual service may be extended by means of a certified connector assembly. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should make sure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Warning

To avoid electrical shock or equipment malfunction do not attempt to make electrical ground connections by yourself. Contact the appropriate inspection authority or an electrician, as appropriate.

The **Ringer Equivalence Number** (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

Laser safety statement

All Gateway systems equipped with CD and DVD drives comply with the appropriate safety standards, including IEC 825. The laser devices in these components are classified as "Class 1 Laser Products" under a US Department of Health and Human Services (DHHS) Radiation Performance Standard. Should the unit ever need servicing, contact an authorized service location.

Warning

Use of controls or adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure. To prevent exposure to laser beams, do not try to open the enclosure of a CD or DVD drive.

California Proposition 65 Warning

Warning

This product contains chemicals, including lead, known to the State of California to cause cancer and/or birth defects or reproductive harm.

Notices

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Poway, CA 92064 USA

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